DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY OPERATING PERMIT

Permit No. 072TVP01 Issue Date: November 22, 2002
Application No. A000072 Expiration Date: December 31, 2007

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the permittee, **Alyeska Pipeline Service Company**, for the operation of the Trans Alaska Pipeline System's **Pump Station 1 (PS-1)**.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As required by AS 46.14.120(c), the permittee shall comply with the terms and conditions of this operating permit.

All facility-specific terms and conditions of Air Quality Control Permit-to-Operate No. 9572-AA012, Construction permit 9572-AC021, and paragraphs relating to Pump Station 1 in the Compliance Order by Consent No. 90-2-4-6-262-1 have been incorporated into this Operating Permit.

This Operating Permit becomes effective January 1, 2003.

John F. Kuterbach, Manager

Air Permits Program

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List of Abbreviations Used in this Permit

AAC .....Alaska Administrative Code
ADEC.....Alaska Department of Environmental Conservation
AS.....Alaska Statutes
ASTM.....American Society for Testing and Materials
C.F.R. .....Code of Federal Regulations
CEMS.....Continuous Emissions Monitoring System
COMS .....Continuous Opacity Monitoring System
dscf.....Dry standard cubic feet
EPA .....US Environmental Protection Agency
gr./dscf.....grain per dry standard cubic foot (1 pound = 7000 grains)
GPH.....gallons per hour
HAPs .....Hazardous Air Pollutants [hazardous air contaminants as defined in AS 46.14.990(14)]
HHV.....Higher Heating Value
ID.....Source Identification Number
ISO.....International Standards Organization. Reference: 59 F and 29.92 in Hg
kPa.....kiloPascals
LHV.....Lower Heating Value
MACT .....Maximum Achievable Control Technology
NESHAPs.....Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 C.F.R. 61]
NSPS.....Federal New Source Performance Standards [as defined in 40 C.F.R. 60]
PEMS .....Predictive Emissions Monitoring System
ppm.....Parts per million
PS .....Performance specification
PSD .....Prevention of Significant Deterioration
RM.....Reference Method
SIC. .....Standard Industrial Classification
SO_2.....Sulfur dioxide
TPH.....Tons per hour
TPY .....Tons per year
VOC.....volatile organic compound [as defined in 18 AAC 50.990(103)]
wt%.....weight percent

Section 1. Identification

Names and Addresses

Permittee:	Alyeska Pipeline Service Company 1835 South Bragaw St. Anchorage, AK 99512
Facility:	Trans Alaska Pipeline System's **Pump Station 1 (PS-1)**
Physical Address:	Sections 32 and 33, T11N, R14E, Umiat Meridian North Slope, Alaska
Owners of the Trans Alaska Pipeline System as of permit issue date:	Amerada Hess Pipeline Corp. BP Pipelines (Alaska) Inc. ExxonMobil Pipeline Company Phillips Alaska Transportation, Inc. Unocal Pipeline Company Williams Alaska Pipeline Company, LLC
Operator:	Alyeska Pipeline Service Company
Permittee's Responsible Official Pipeline Manager	Jim F. Johnson. Or, successor
Designated Agent:	CT Corporation System Supervisor of Process/SP 801 West Tenth Street, Suite 300 Juneau, AK 99801 (907) 586-3340
Facility Contact:	PS1 Operations and Maintenance Supervisor (907) 787-4105
Billing Contact:	Tammy Martin, or successor, Environment Billing Administrator P. O. Box 60469, MS 814 Fairbanks, AK 99706
SIC Code of the Facility:	4612 – Crude Oil Pipelines

[18 AAC 50.350(b), 1/18/97]

Section 2. General Emission Information

Emissions of Regulated Air Contaminants, as provided in the permittee's application:

Nitrogen Oxides (NO_X), Carbon Monoxide (CO), Sulfur Dioxide (SO_2), Inhalable Particulates (PM_{10}), Volatile Organic Compounds (VOC), p-Xylenes, 1,3-Butadiene, Acrolein, m-Xylenes, Toluene, Phenol, Xylenes (isomers and mixture), Formaldehyde, 2,2,4-Trimethylpentane, Benzene (including benzene from gasoline), Acetaldehyde, Naphthalene, o-Xylenes, Ethylene glycol, Hexane (as n-Hexane), Polycyclic organic matter, Carbonyl disulfide, Arsenic, Beryllium, Chromium Compounds, Cobalt Compounds. Lead, Mercury, Halon 1301, Reduced sulfur compounds, Hydrogen sulfide, Methanol, Ethylbenzene, Dichlorodifluoromethane (R-21), Chlorodifluoromethane (R-22), Chlorotrifluoromethane and Trifluoromethane azeotropic mixture with approximately 60% Chlorotrifluoromethane (R-503), (Chlorotrifluoromethane) and (Trifluoromethane),

Facility Classifications:

1. 18 AAC 50.300(b)(2)
2. 18 AAC 50.300(c)(1)

Operating Permit Classifications:

3. 18 AAC 50.325(b)(1)
4. 18 AAC 50.325(b)(3)
5. 18 AAC 50.325(c) – via 18 AAC 50.300(b)(2) and (c)(1)

[18 AAC 50.350(b), 1/18/97]

Section 3. Fee Requirements

1. General. The permittee shall pay assessed fees in accordance with AS 46.14.240--250 and 18 AAC 50.400--420.

[18 AAC 50.350(c) & 18 AAC 50.400 – 420, 1/18/97]

2. Assessable Emissions. The permittee shall pay to the department annual emission fees based on the facility's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The department will assess fees per ton of each air contaminant that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of

2.1 the facility's assessable potential to emit of 1501 TPY ; or

2.2 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the department, when demonstrated by

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

d. other methods and calculations approved by the department.

[18 AAC 50.350(c) & 18 AAC 50.410, 1/18/97]
[AQC Permit No. 9572-AA0012]

3. Assessable Emission Estimates. Emission fees will be assessed as follows:

3.1 No later than March 31 of each year, the permittee may submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emission Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the department can verify the estimates, or

3.2 If no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 2.1.

3.3 The estimate of assessable emissions provided under paragraph 3.1 above may include a gross estimate of emissions for any insignificant sources defined under 18 AAC 50.335(q) through (v) located at the facility. Documentation is not required for subsequent submittals unless requested by the department.

[18 AAC 50.350(c) & (g) – (i), 18 AAC 50.410, 1/18/97, & 18 AAC 50.346(a)(1), 5/3/02]

Section 4. Source Listing and Description

Sources listed below have source specific monitoring, record keeping, or reporting conditions stated elsewhere in this permit. The source descriptions and ratings in TABLE 1 are for identification purposes only.

TABLE 1. Source Listing

Source Description[1]	ID	Fuel/Exhaust Description	Commence construction[2]	Rating/size (not enforceable)
Avon Gas Generator 31-P-2AT	1	Fuel gas/Reaction Turbine Stack	Pre-1977	24,600 EGHP
Avon Gas Generator 31-P-2BT	2	Fuel gas/Reaction Turbine Stack	Pre-1977	24,600 EGHP
Avon Gas Generator 31-P-2CT	3	Fuel gas/Reaction Turbine Stack	Pre-1977	24,600 EGHP
Solar Turbine Elec. Gen. 31-G-4A	4	Distillate oil/ Turbine Stack	Pre-1980	800 kiloWatt
Solar Turbine Elec. Gen. 31-G-4B	5	Distillate oil/ Turbine Stack	1985[3]	800 kiloWatt
Solar Turbine Gas Comp. 31-C-10-1802T	6	Fuel gas/ Turbine Stack	1984[3]	1135 hp
Solar Turbine Gas Comp. 31-C-10-1803T	7	Fuel gas/ Turbine Stack	1984[3]	1135 hp
Solar Turbine Booster Pumps 31-P-1AT	8	Fuel gas/ Turbine Stack	Pre-1977	1135 hp
Solar Turbine Booster Pumps 31-P-1BT	9	Fuel gas/ Turbine Stack	Pre-1977	1135 hp
Solar Turbine Booster Pumps 31-P-1CT	10	Fuel gas/ Turbine Stack	Pre-1977	1135 hp
Garret Turbine Elec. Gen. 31-G-1AT	11	Distillate oil or Fuel gas/ Turbine Stack	Pre-1980	510 kiloWatt
Garret Turbine Elec. Gen. 31-G-1BT	12	Distillate oil or Fuel gas/ Turbine Stack	Pre-1980	510 kiloWatt
Garret Turbine Elec. Gen. 31-G-1CT	13	Distillate oil or Fuel gas/ Turbine Stack	Pre-1980	510 kiloWatt
Garret Turbine Elec. Gen. 31-G-2AT	14	Distillate oil or Fuel gas/ Turbine Stack	Pre-1980	510 kiloWatt
Garret Turbine Elec. Gen.	15	Distillate oil or Fuel gas/	Pre-1980	510 kiloWatt

[1] These numbers are Alyeska Equipment Tag Numbers. They are not manufacturer's serial numbers.
[2] Commence construction per 40 C.F.R. 52.21(b) & (i) and 40 C. F. R. 60.2
[3] Commence construction: Source 5 was constructed prior to October 3, 1977 and was installed at the facility in 1985. Sources 6 and 7 were constructed in 1983 and were installed at the facility in 1984.

Source Description[1]	ID	Fuel/Exhaust Description	Commence construction[2]	Rating/size (not enforceable)
31-G-3AT		Turbine Stack		
Eclipse Therminol Heater 31-H-1A	16	Distillate oil or Fuel gas/Heater Stack	Pre-1980	20.6 MMbtu/hr
Eclipse Therminol Heater 31-H-1B	17	Distillate oil or Fuel gas/Heater Stack	Pre-1980	20.6 MMbtu/hr
Eclipse Therminol Heater 31-H-1C	18	Distillate oil or Fuel gas/Heater Stack	Pre-1980	20.6 MMbtu/hr
Broach Heater 31-H-10-1401	19	Distillate oil or Fuel gas/Heater Stack	1984	3.0 MMbtu/hr
Cummins N-855F Firewater Pump; 31-FP-2PK	20	Distillate oil/Diesel Stack	Pre-1980	215 BHP
Therm-Tec Solid Waste Incin. 31-IN-1	21	Incinerator Stack	Pre-1980	300 lb/hr
Zink Flare/Airfoil Flaregas Flare; 31-FS-1	22	Flare tip	Modified 1995	33,000 scf/hr (purge), 456 scf/hr (pilot)

[2] Commence construction per 40 C.F.R. 52.21(b) & (i) and 40 C. F. R. 60.2

Section 5. Source-Specific Requirements

Fuel-Burning Equipment and Incineration

4. **Visible Emissions.** The permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source IDs 1 through 20 and 22 from TABLE 1 to reduce visibility through the exhaust effluent by greater than 20 percent for a total of more than three minutes in any one hour.[4]

[18 AAC 50.055(a)(1), 1/18/97 & 40 C. F. R. 52.70, 11/18/98]

5. The permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source IDs 1 through 22 from TABLE 1 to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.050(a), & 18 AAC 50.055(a)(1), 5/3/02]

5.1 For Source ID(s) 1 through 3, and 6 through 10 burn only natural gas as fuel. Monitoring for these sources shall consist of an annual certification per Condition 55 that each of these sources fired only gas.

5.2 For each of Sources ID 4, 5, and 11 through 20 that are operated on liquid fuel for more than 400 hours per calendar year monitor, record and report according to Section 13 and record and report per each source the number of operating hours per the past calendar year when liquid fuel is used;

5.3 For source IDs 11 through 19 when using natural gas fuel certify in each operating report required under Condition 54 that the source burned only natural gas when not combusting liquid fuels.

[18 AAC 50.050(a)(2), 18 AAC 50.055(a)(1), 1/18/97; 18 AAC 50.346(c), 5/3/02]
[18 AAC 50.350(d), 6/21/98; & 18 AAC 50.350(g) – (i), 1/18/97]

5.4 For source ID 21 the permittee shall observe emissions for 18 consecutive minutes to obtain a minimum of 72 observations in accordance with Method 9 of 40 C.F.R. 60, Appendix A, at least once within six months after the effective date of this permit and every 24 calendar months thereafter.

[18 AAC 50.350(g) - (h), 1/18/97]

5.5 Report under Condition 52 if the visible-emission standard in Condition 5 is exceeded.

[18 AAC 50.350(i), 1/18/97]

[4] For purposes of this permit, this condition will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA. The six-minute average standard (Condition 5) is in effect as a SIP requirement when EPA approves the SIP.

5.6 For Source ID 22 the permittee shall observe the flare emissions at least once per calendar year using EPA Method 9. The observations shall be conducted for a minimum of 18-minutes during a period that high crude oil volumes are being diverted to the PS 1 crude oil tanks. The flow rate of crude oil (in bbls/day) being diverted into tankage at the time of the observation(s) shall be noted on the observation form. A copy of the monitoring results shall be provided in the next facility operating report required by Condition 54.

6. Particulate Matter. The permittee shall not cause or allow particulate matter emitted from Sources ID 1 through 20, and 22 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

For Sources ID 4 and 5, and 11 through 15 and 20 monitor, record and report according to Section 13 if operated over 400 hours per calendar year.

[18 AAC 50.055(b)(1), 1/18/97; 18 AAC 50.350(d), 6/21/98; & 18 AAC 50.350(g) – (i), 1/18/97]

7. Sulfur Compound Emissions. The permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from Sources ID 1 – 20 and 22 to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97; 18 AAC 50.350(d), 6/21/98]

7.1 No fuel gas with a hydrogen sulfide (H_2S) content in excess of 30 ppm shall be burned in Sources ID 1 through 20 and 22.

[AQC Permit No. 9572-AA012]

a. The permittee or fuel supplier shall conduct a quarterly test, and on a change in the supply of fuel gas, and keep records of the test, to determine the sulfur (H_2S) content of the fuel gas burned at the facility. A representative gas sample can be taken anywhere along the fuel gas line. Acceptable methods for H_2S are ASTM D-4810-88, ASTM D-4913-89, and Gas Producers Association (GPA) method 2377-86 or a portable H_2S analyzer. The permittee may propose to the department an alternative monitoring plan. The alternative monitoring plan must satisfy the underlying purpose for this monitoring and 18 AAC 50.350(g) and (h).

b. Report under Condition 52 whenever you receive fuel that does not meet the H_2S limit of Condition 7.1. When reporting under this condition, include a material balance calculation of the sulfur compound emissions, in ppm, expected if the fuel gas exceeds 4200 ppm H_2S. The material balance may be made in accordance with Section 14.

c. Include in the facility operating report required by Condition 54 a list of the H_2S content analysis results obtained during the reporting period, and any reports required by Condition 7.1b. Report the fuel gas H_2S concentration in (ppmv), of the fuel gas for the quarter and identify the analytical method.

d. There is no monitoring requirement for flared gas.

[State Air Quality Control Plan, page IV.G.2-1, 11/84]

7.2 No liquid fuel with a weight percent sulfur in excess of 0.3 shall be burned in Sources ID 4,5, and 11 through 20.

[AQC Permit No. 9572-AA012]

The permittee shall:

a. Obtain a statement or receipt from the fuel supplier verifying the sulfur content of the fuel for each shipment of fuel delivered to the facility, or

b. Analyze a representative sample of the fuel from the facility fuel storage tank once per calendar month to determine the sulfur content. Acceptable ASTM test methods include D2880-87, D4294-98, or later versions, other listings under 18 AAC 50.035, or an alternative method approved by the department.

c. Report under Condition 52 whenever you receive fuel that does not meet the requirements of Conditions 7.2. When reporting under this condition, include a material balance calculation of the sulfur compound emissions, in PPM, expected from liquid fuels if the liquid fuel exceeds 0.75 weight percent sulfur. The material balance may be made in accordance with Section 14.

d. Include in the facility operating report required by Condition 54 a list of the liquid fuel sulfur content received at the facility during the reporting period or the results of the monthly analysis from the facility fuel storage tank. Indicate whether the sulfur content results were provided by the fuel supplier or based upon the monthly sampling of the facility storage tank. And include any reports required by Condition 7.2c.

[18 AAC 50.350(g) - (i) & 18 AAC 50.410(c) 1/18/97]
[18 AAC 50.346(e), 5/3/02]

Federal New Source Performance Standards, Subpart GG

Turbine Engine Replacement. The permittee has a family of turbine engines that are rotated in and out of operation for Sources 1 through 15 as dictated by maintenance. Two replacement Solar turbines, S/N 0756S21 and 0753S21 were manufactured after the 1977/1982 applicability dates for 40 CFR 60 Subpart GG (NSPS). This permit has permit terms that address the replacement of the existing turbines with the Solar turbines that have been identified as being subject to 40 CFR 60 Subpart GG. Sources ID 6 through 10 are the only positions where Alyeska requests the flexibility of operating these NSPS Subpart GG turbines.

[18 AAC 50.365(a), 1/18/97]

8. Turbines Subject to NSPS, 40 CFR Part 60 Subparts GG and A. Solar Turbine Engine Serial Number 0756S21 and 0753S21 may be used to replace the existing turbine engines located in position Source ID 6 through 10. The Solar Turbine engines, s/n 07656S21 and 0753S21, are subject to Subpart GG requirements because the engines were manufactured after October 3, 1982 and have a heat input rating over 10.7 gigajoules per hour. If the turbine engines are located at the facility, Solar turbine engines, 07656S21 and 0753S21, shall:

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 C.F.R. 60.332(a), 7/1/99]

8.1 Not fire liquid fuel unless the fuel meets the definition of emergency fuel as defined by 40 C. F. R. 60.331(r) and is reported in accordance with 40 C. F. R. 60.334(c)(4).

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 C.F.R. 60.331(r) & 60.332(k), 7/1/99]

8.2 Not emit NO_X in excess of 150 PPM at 15 percent O_2, ISO conditions.

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 C.F.R. 60.332 (a) & (d), 7/1/99]

8.3 Not burn fuel with a sulfur content in excess of 0.8 percent by weight.

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 C.F.R. 60.333(a) & (b), 7/1/99]

8.4 Monitor the sulfur content of the fuel being burned in accordance with the custom fuel monitoring approved by EPA (EPA letter dated 10/16/97) to fulfill 40 CFR 60.334(b). Monitoring for fuel nitrogen is not required consistent with the custom fuel monitoring exemption approved by EPA.

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 C.F.R. 60.334(b), 7/1/99]

8.5 Submit the fuel monitoring reports semiannually as approved by EPA (EPA letter(s) dated 10/16/97 and 10/30/97) to fulfill 40 CFR 60.7(c), (d), and 60.334(c).

[18 AAC 50.040(a)(1) & (a)(2)(V), 7/2/00]

[40 C.F.R. 60.7(c) and (d), 60.334 (c), 7/1/99]

8.6 Maintain records of startup, shutdown, and malfunction as required by 40 CFR 60.7(b).

[18 AAC 50.040(a)(1), 7/2/00]
[40 C.F.R. 60.7(b), 7/1/99]

8.7 Maintain a record of all measurements, including performance tests, and all other information under 40 CFR Part 60 as required by 40 CFR 60.7(f).

[18 AAC 50.040(a)(1) & (a)(2)(V), 7/2/00]
[40 C.F.R. 60.7(f), 60.334 and 60.335, 7/1/99]

8.8 Maintain and operate in a manner consistent with good air pollution control practices for minimizing emissions as required by 40 CFR 60.11(d).

[18 AAC 50.040(a)(1), 7/2/00]
[40 C.F.R. 60.11(d), 7/1/99]

8.9 Not build, erect, install, or use any article, machine, equipment or process which conceals an emission which would otherwise constitute a violation of an applicable standard as required by 40 CFR 60.12.

[18 AAC 50.040(a)(1), 7/2/00]
[40 C.F.R. 60.12, 7/1/99]

Turbines Subject to NSPS Subpart GG

9. NO_X Monitoring, Recordkeeping, and Reporting for turbines subject to Condition 8.

9.1 **Waivers**. The permittee shall provide to the department a written copy of any U.S. EPA granted waiver of the federal emission standards, record keeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules upon request by the department. The permittee shall keep a copy of each U.S. EPA issued monitoring waiver or custom monitoring schedule with the permit.

9.2 **Periodic Testing.**

a. **Initial Periodic Testing.** For each turbine subject to condition 8.2 that operates for 400 hours or more in any 12-month period during the life of this permit, the permittee shall satisfy either condition 9.2a(i) or 9.2a(ii).

(i) For existing turbines not represented by emission data described in Condition 9.2a(ii), the permittee shall conduct a NO_X and O_2 source test under 40 C.F.R. 60, Appendix A-7, Method 20 within three years after issuance of this permit, or within one year of exceeding 400 hours in a 12 consecutive month period, whichever time period is greater. If a turbine exceeds the operating threshold such that the time remaining before permit expiration is less than 12 months then the permittee shall conduct such testing as authorized by a renewal of the permit.

(a) for each turbine, or

(b) on one turbine to represent a group of turbines, if allowed to do so under Condition 9.3.

(ii) If a test following 40 C.F.R. 60, Appendix A-7, Method 20 or following another protocol approved by the department has been conducted on a turbine within two years before the issuance date of this permit, and the test shows that emissions at maximum load are less than 90 percent of the emission limit in Condition 8.2, then

(a) the permittee may use those test results to represent emissions from that turbine or for a group of turbines if allowed under Condition 9.3 until the testing of Condition 9.2a(ii)(b) is performed; and

(b) the permittee shall conduct a Method 20 test on each turbine or, on one of a group of turbines as allowed under Condition 9.3, within the 5 years of the permit term.

b. **Higher Tier Testing.** For each turbine with test results under Condition 9.2a that are 90 percent or more of the emission limit of Condition 8.2, or for which emissions will equal or exceed 90 percent of the emission limit at maximum load, as shown through Condition 9.4, the permittee shall conduct an additional Method 20 test for the turbine within one year of the test under Condition 9.2a. The permittee shall conduct at least one additional test per year until at least two consecutive tests show that emissions for the turbine are less than 90 percent of the limit at loads up to maximum load.

9.3 **Substituting Test Data.** The permittee may use a Method 20 test under Conditions 9.2a or 9.2b performed on only one of a group of turbines to satisfy the requirements of those conditions for the other turbines in the group if

a. the permittee demonstrates that test results are less than 90% of the emission limit of Condition 8.2, and are projected under Condition 9.4 to be less than 90% of the limit at maximum load;

b. for any source test done after the issuance date of this permit, the permittee identifies in a source test plan under Condition 42

(i) the turbine to be tested;

(ii) the other turbines in the group that are to be represented by the test; and

(iii) why the turbine to be tested is representative, including that each turbine in the group

(a) is located at a facility operated and maintained by the permittee;

(b) is the same make and model and has identical injectors and combustor; and

(c) uses the same fuel type.

c. for any source test done before the issuance date of this permit and used under Condition 9.2a(ii), the permittee

(i) demonstrates why the test results are representative of emissions from the entire group of turbines, including that each turbine in the group

(a) is located at a facility operated and maintained by the permittee;

(b) is the same make and model and has identical injectors and combustor; and

(c) uses the same fuel type;

(ii) submits all results of source testing that has been performed on each turbine in the group, regardless of the date of the test, and certifies that the submittal is complete, consistent with 18 AAC 50.205.

9.4 **Load.**

a. The permittee shall conduct all tests under Condition 9.2 in accordance with 40 C.F.R. 60.335(c)(3), except as otherwise approved in writing by the department, or by EPA if the circumstances at the time of the EPA approval are still valid. For the highest load condition, if it is not possible to operate the turbine during the test at maximum load, the permittee will test the turbine when operating at the highest load achievable by the turbine under the ambient and facility operating conditions in effect at the time of the test.

b. The permittee shall demonstrate in the source test plan for any test performed after the issue date of this permit whether the test is scheduled when maximum NO_X emissions are expected.

c. If the highest operating rate tested is less than the maximum load of the tested turbine or another turbine represented by the data,

(i) for each such turbine the permittee shall provide to the department with the source test report

(a) additional test information from the manufacturer or from previous testing of units in the group of turbines; if using previous testing of the group of turbines, the information must include all available test data for the turbines in the group, and

(b) a demonstration based on the additional test information that projects the test results from Condition 9.2 to predict the highest load at which emissions will comply with the limit in Condition 8.2.

(ii) the permittee shall not operate any turbine represented by the test data at loads for which the permittee's demonstration predicts that emissions will exceed the limit of condition 8.2,

(iii) the permittee shall comply with a written finding prepared by the department that

(a) the information is inadequate for the department to reasonably conclude that compliance is assured at any load greater than the test load, and that the permittee must not exceed the test load;

(b) the highest load at which the information is adequate for the department to reasonably conclude that compliance assured is less than maximum load, and the permittee must not exceed the highest load at which compliance is predicted, or

(c) the permittee must retest during a period of greater expected demand on the turbine; and

(iv) the permittee may revise a load limit by submitting results of a more recent Method 20 test done at a higher load, and, if necessary, the accompanying information and demonstration described in condition 9.4c(i), the new limit is subject to any new department finding under condition 9.4c(iii).

d. In order to perform a Method 20 emission test, the permittee may operate a turbine at a higher load than that prescribed by Condition 9.4c.

e. For the purposes of Conditions 9.1 through 9.5a , maximum load means the hourly average load that is the smallest of

(i) 100 percent of manufacturer's design capacity of the gas turbine at ISO standard day conditions;

(ii) the highest load allowed by an enforceable condition that applies to the turbine; or

(iii) the highest load possible considering permanent physical restraints on the turbine or the equipment which it powers.

9.5 **Recordkeeping.**

a. The permittee shall comply with the following for each turbine for which a demonstration under condition 9.4c does not show compliance with the limit of condition 8.2 at maximum load.

(i) The permittee shall keep records of

(a) load; or

(b) as approved by the department, surrogate measurements for load and the method for calculating load from those measurements.

(ii) Records in condition 9.5a shall be hourly or otherwise as approved by the department.

(iii) Within one month after submitting a demonstration under condition 9.4c(i)(b) that predicts that the highest load at which emissions will comply is less than maximum load, or within one month of a department finding under condition 9.4c(iii), whichever is earlier, the permittee shall propose to the department how they will measure load or load surrogates, and shall propose and comply with a schedule for installing any necessary equipment and beginning monitoring. The permittee shall comply with the approved load monitoring methods, equipment, or schedule.

b. For any turbine subject to conditions 8.2 and 9, that will operate less than 400 hours in any 12 consecutive months, keep monthly records of the hours of operation. If a turbine that normally operates less than 400 hours exceeds that total during any 12-month period during the permit term, test according to condition 9.2.

9.6 **Reporting.**

a. In each facility operating report under Condition 54 the permittee shall list for each turbine tested or represented by testing at less than maximum load and for which the permittee must limit load under condition 9.4c

(i) the load limit;

(ii) the turbine identification; and

(iii) the highest load recorded under condition 9.5a during the period covered by the operating report.

b. In each facility operating report under condition 54 for each turbine for which condition 9.2 has not been triggered because the turbine normally operates less than 400 hours in any 12 months, the permittee shall identify

(i) the turbine;

(ii) the highest number of operating hours for any 12 months ending during the period covered by the report; and

(iii) any turbine subject to 40 CFR 60.332(a) that operated for 400 or more hours.

c. The permittee shall report under condition 52 if

(i) a test result exceeds the emission standard;

(ii) Method 20 testing is required under condition 9.2 or 9.5b but not performed, or

(iii) the turbine was operated at a load exceeding that allowed by conditions 9.4c(ii) and 9.4c(iii); exceeding a load limit is deemed a single violation rather than a multiple violation of both monitoring and the underlying emission limit.

[18 AAC 50.350(g) - (i), 5/3/02, 50.220(a) - (c), 1/18/97, & 50.040(a)(1), 8/15/02]
[40 CFR 60.8(b), Subpart A, 7/1/01]

10. Report according to Condition 52 any daily period during which the sulfur content of the fuel being fired exceeds 0.8 percent by weight.

[40 C.F.R. 60.7(c) & 60.334(b)(2), 7/1/99]
[18 AAC 50.350(i), 7/2/00]

11. Report according to Condition 52 when the emission limits in Conditions 8 are exceeded.

[18 AAC 50.350(i), 7/2/00]
[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 C.F.R. 60.333(a) & (b), 7/1/99]

12. The permittee shall use 40 C.F.R. 60, Appendix A, Method 20 to determine the nitrogen oxides and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. The NO_X emissions shall be determined at four points in the normal operating range of the gas turbine, including the minimum point in the range and peak load. All loads shall be corrected to ISO conditions using the equation in 40 C.F.R. 60.335(c)(1) or the appropriate equations supplied by the manufacturer.

[40 C.F.R. 60.335(c)(3), 7/1/99]
[18 AAC 50.040(a)(2)(V), 7/2/00]

12.1 To meet the requirements of Condition 8.3 the owner or operator shall use the methods specified in Condition 7.2a to determine the sulfur contents of the fuel being burned.

12.2 The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 C.F.R. 60.332(a), 7/1/99]
[40 C.F.R. 60.334(a) & 335(a) - (f), 7/1/99]

13. Turbine Relocations. The permittee may move turbine engines, from a pool of turbine engines, from location to location between TAPS pump stations to allow for maintenance of turbine engines. Conditions 13.1 through 13.5 apply only to gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour.

13.1 The permittee shall maintain, for each turbine engine, records of the maintenance, repairs, parts replacement, including the date of each servicing, the service performed, and the costs of the service.

13.2 The permittee shall record in a log the following information each time a turbine engine from the pool is switched into service:

a. The date the switched occurred;

b. Identification of the removed turbine and the substitute turbine engine by make, model, date of manufacture, serial number, maximum heat input, and location.

13.3 The permittee shall submit with the first facility operating report required by Condition 54 a complete list of all turbine engines maintained as part of a pool which contains an NSPS Subpart GG turbine, with information on the make, model, date of manufacture, serial number, maximum heat input, and location for each turbine engine.

13.4 The permittee shall notify the department in writing no later than 14 days after any rotation of an NSPS Subpart GG turbine into an operating turbine position.

13.5 The permittee shall submit a copy of the records required by Condition 13.2 with the facility operating report required by Condition 54 for all turbine engines switched during the reporting period.

[40 CFR 70.6(a)(9), 11/18/98]
[EPA Letter, 40 CFR 60 Subpart GG Applicability Determination, 8/1/02]
[18 AAC 50.350(g) - (i) & 50.346(c), 5/3/02]

Section 6. Facility-Wide Requirements

Avon Gas Generators (Source IDs 1-3)

14. Sewage Stack Injection. The permittee shall not allow the stack injection rate of sewage liquids to exceed 3.5 gpm per nozzle; shall not allow the air injection pressure to be lower than 70 psig; shall not allow the liquid injection pressure to exceed 40 psig for single nozzle original configurations and 45 psig for single nozzle countercurrent and double nozzle configurations; shall not allow the gas reaction turbine speed to be lower than 2350 RPM, and shall not allow the exhaust temperature to be lower than 750°F for single nozzle and 890°F for dual nozzle configurations.

[AQC Permit No. 9572-AA012/9872-AA021 & 18 AAC 50.055(g), 11/4/99]

14.1 Monitor and record the reaction turbine speed (rpm), turbine exhaust temperature (°F), and air and liquid injection pressure (psig) during the operation of any sewage injection system once every 4 hours during sewage injection system operation, and by following the schedule specified in maintenance for visual inspection of the injection nozzle assembly and inspection of data-logged information for anomalies. Permittee shall monitor and record gallons of sewage effluent injected monthly by summing potable water meter readings and any other volumes greater than 30 gallons/day not accounted for by the potable water meters.

14.2 Record and report, under Condition 54, the monthly volume of sewage liquids injected.

[18 AAC 50.350(g - i), 1/18/97]

14.3 Report, under Condition 52, when any of the limits in Condition 14, are exceeded.

[18 AAC 50.350(g - i), 1/18/97]

15. Operating Limit Fuel Consumption and Gas Generator Speed. The permittee shall not allow the following fuel consumption rates and gas generator speed for the three Avon gas generators Source IDs 1 through 3 combined to be exceeded:

Average Daily Ambient Temperature	Maximum Fuel Consumption Rate (Mscfd)
60°F or higher	12,168
40 to 59°F	12,888
20 to 39°F	13,563
0 to 19°F	14,112
-20 to -1°F	14,688
-40 to -21°F	15,120
Less than -40°F	> 15,120

Avon Gas Generator Speed: 7,500 rpm or less nominal operating speed.

7,599 rpm or less instantaneous operating speed.

[AQC Permit No. 9572-AA012/9872-AA021]

15.1 For Source IDs 1 through 3, install, operate, and maintain in good working order a system for daily recording and monitoring: ambient temperature, operating time (hours/day), Avon Gas Generator speed (RPM), and fuel consumption. Permittee shall at least twice per calendar year, starting in 2003, verify the accuracy and precision of the monitors used for ambient temperature, rpm speed, and fuel consumption. The acceptance criteria for the ambient temperature is within +/- 5 deg. F and within +/- 5% for the rpm speed and fuel consumption meters. In the event, that the instrumentation is found to exceed the acceptance criteria, the permittee shall take corrective action to repair, replace, or recalibrate the instrumentation, as appropriate, such that the acceptance criteria is met. Permittee shall maintain records of the verification checks and any corrective actions performed.

a. Record the daily fuel consumption, average daily ambient temperature and average daily rpm speed for each Avon gas generator.

[18 AAC 50.350(g) - (i), 7/2/00]

b. In the event of a fuel meter malfunction, calculate the fuel consumption for the Avon gas generators as follows:

Ambient Corrections

beta = β = 0.97698 + 0.00038722 * T_{in}

delta = δ = P_{baro}/29.92

theta = θ = (T_{in} + 460)/519

Gas Generator Speed Correction

$$N_{corr} = \frac{N_{obs}}{\sqrt{\Theta}}$$

ISO Corrected Fuel Consumption

$$Q_{flSO} = \frac{-263{,}010 + (57.771 * N_{corr}) - 0.0023036 * (N_{corr})^2}{LHV * Density}$$

Site Fuel Consumption

$$Q_{fsite} = Q_{flSO} * b * \sqrt{\Theta} * d * 3600(seconds / hour) * 4\left(\frac{hours}{time\ block}\right)$$

Daily Fuel Consumption

$Q_{total} = \Sigma Q_{fsite}$

Where: N_{obs} is the observed speed of the gas generator (rpm).

T_{in} is the inlet temperature to the gas generator (°F).

P_{baro} is the site barometric pressure (inches Hg).

LHV is the lower heating value of the fuel (Btu/scf).

Density is the density (pounds per gallon) for liquid fuel. A default value of 1 shall be used for natural gas, since LHV is already in Btu/scf.

Q_{fsite} is the fuel consumption for one, four-hour block of time (scf) per time block.

Q_{total} is the amount of fuel consumed in one day (scf/day).

For the above calculations to determine the fuel usage, the values for T_{in}, P_{baro}, and turbine speed will be taken at 4-hour intervals or less. The permittee may propose to the department an alternative monitoring plan.

16. Report for each day, under Condition 54, the average daily ambient temperature and daily fuel consumption (Mscf). Report, under Condition 54, the dates of the accuracy and precision verifications of Condition 15.1 and the compliance status with the acceptance criteria.

17. Report, under Condition 52, when the fuel or RPM limits of Condition 15 are exceeded.

[18 AAC 350(g) – (i), 1/18/97]

18. For the process monitoring equipment for fuel consumption, inlet and exhaust temperature, sewage injection - air and liquid injection pressure (psig) and turbine speeds (RPM), permittee shall report the monitoring system downtime as a percentage of the source operating time in the operating report of Condition 54.

[18 AAC 50.350(g) - (i), 7/2/00]

Solar Turbine Electric Generators (Source IDs 4 & 5)

19. The permittee shall not allow the combined total fuel oil usage for Sources ID 4 and 5 to exceed 100 gal/hr monthly average, and shall not allow the combined total operating hours to exceed 8760 per calendar year.

[AQC Permit No. 9572-AA012]

19.1 Keep records of fuel consumption and operating hours. The fuel consumption may be estimated from firing time and burner rating. The monthly average fuel consumption (in gal/hr) is computed as the total amount of fuel consumed in that month divided by the total hours in that month that the generators are operated.

19.2 Report for each month of the reporting period under Condition 54, the monthly average hourly fuel consumption, gal/hr, and report the combined total operating hours per calendar year ending in each month of the reporting period.

19.3 Report, under Condition 52, when the fuel or time limits of Condition 19 are exceeded.

[18 AAC 350(g) –(i), 1/18/97]

Solar Turbine Compressors and Pumps (Source IDs 6 through 10)

20. The permittee shall not allow the fuel gas usage for each of Sources ID 6 - 10 shall to exceed 14,357 scf/hr, monthly average.

[AQC Permit No. 9572-AA012]

20.1 Keep records of fuel consumption and operating hours. The fuel consumption may be estimated from firing time and burner rating. The monthly average fuel consumption (in gal/hr) is computed as the total amount of fuel consumed by each turbine in that month divided by the total hours in that month that the turbine is operated.

20.2 Report for each month of the reporting period under Condition 54, the monthly average of the fuel consumption, scf/hr for each turbine.

20.3 Report, under Condition 52, when the fuel or time limits of Condition 20 are exceeded.

[18 AAC 50.350(g) -(i), 1/18/97]

Garrett Turbine Electric Generators (Source IDs 11 through 15)

21. The permittee shall not allow the fuel usage and operating time for Sources ID 11 - 15 to exceed:

21.1 9687 scf/hr per turbine, monthly average,

21.2 160,000 gallons per calendar year combined total, and

21.3 2,500 hours per calendar year on liquid fuel combined total.

[AQC Permit No. 9572-AA012]

21.4 Keep records of fuel consumption and operating hours. The fuel consumption may be estimated from firing time and burner rating. The monthly average fuel consumption (in scf/hr) is computed as the total amount of fuel consumed in that month divided by the total hours in that month that the turbine is operated.

21.5 Report for each month, under Condition 54,

a. for each turbine the monthly average hourly fuel gas consumption, scf/hr, and

b. for liquid fuel the combined total operating hours and fuel consumed (gallons) for the calendar year ending in each month of the reporting period.

21.6 Report, under Condition 52, when any of the fuel or time limits of Conditions 21.1 - 21.3 are exceeded.

[18 AAC 50.350(g) – (i), 1/18/97]

Eclipse Heaters (Source IDs 16 through 18)

22. The permittee shall not allow the fuel usage and operating time for sources ID 16 - 18 to exceed:

22.1 23,870 scf/hr per heater, monthly average,

22.2 238,500 gallons per calendar year combined total, and

22.3 1,500 hours of operation per calendar year on liquid fuel combined total.

[AQC Permit No. 9572-AA012]

22.4 Keep records of fuel consumption and operating hours. The fuel consumption may be estimated from firing time and burner rating. The monthly average fuel consumption (in scf/hr) for each heater is computed as the total amount of fuel consumed in that month divided by the total hours in that month that the heater is fired.

22.5 Report for each month, under Condition 54,

a. for each heater the monthly average hourly fuel gas consumption, scf/hr, and

b. for liquid fuel the combined total operating hours and fuel consumed (gallons) for the past calendar year ending in each month of the reporting period.

22.6 Report, under Condition 52, when any of the fuel or time limits of Conditions 22.1 - 22.3 are exceeded.

[18 AAC 50.350(g) – (i), 1/18/97]

Broach Heater (Source ID 19)

23. The permittee shall not allow the fuel usage and operating time for Source ID 19 to exceed:

23.1 12,100 gallons per calendar year, and

23.2 500 hours of operation per calendar year on liquid fuel.

[AQC Permit No. 9572-AA012]

23.3 Keep records of fuel consumption and operating hours. The fuel consumption may be estimated from firing time and burner rating.

23.4 Report under Condition 54, the operating hours and fuel consumed (gallons) for the calendar year ending in each month of the reporting period.

23.5 Report, under Condition 52, when any of the fuel or time limits of Conditions 23.1 or 23.2 are exceeded.

[18 AAC 50.350(g) – (i), 1/18/97]

Therm-Tec Solid Waste Incinerator (Source ID 21)

24. Medical Waste. The permittee shall not allow the total quantity (pounds) of medical/infectious wastes to exceed 10 percent of the total waste (pounds) incinerated on a calendar quarter basis.

[40 C.F.R. 60.32e(c), 7/1/99]

24.1 Weigh and keep records of the weight of medical/infectious wastes and other non-medical/infectious wastes to demonstrate compliance with Condition 24.

24.2 Keep copies of the exemption claim notification provided to the Federal Administrator pursuant to 40 C.F.R. 60.32e (c)(1) and 40 C.F.R. 62.14400(c).

24.3 Report, under Condition 52, if the amount of medical/infectious waste incinerated exceeds the 10 percent exemption threshold of Condition 24.

[18 AAC 50.350(g) - (i), 6/21/98]

Section 7. Insignificant Sources

This section contains the requirements that the permittee identified under 18 AAC 50.335(q)(2) as applicable to insignificant sources at the facility. This section also specifies the testing, monitoring, recordkeeping, and reporting for insignificant sources that the department finds necessary to ensure compliance with the applicable requirements. Insignificant sources are not exempted from any air quality control requirement or federally enforceable requirement.

As set out in 18 AAC 50.350(m), the shield of AS 46.14.290 does not apply to insignificant sources.

25. For sources at the facility that are insignificant as defined in 18 AAC 50.335(q)-(v) that are not listed in this permit, the following apply:

[18 AAC 50.346(b)(1), 5/3/02]

25.1 the permittee shall submit the compliance certifications of Condition 55 based on reasonable inquiry;

[18 AAC 50.350(m)(3), 6/21/98]

25.2 the permittee shall comply with the requirements of Condition 37;

25.3 the permittee shall report in the operating report required by Condition 54 if a source is insignificant because of actual emissions less than the thresholds of 18 AAC 50.335(r) and actual emissions become greater than any of those thresholds;

25.4 no other monitoring, record keeping, or reporting is required.

26. The permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process, fuel-burning equipment, or an incinerator to reduce visibility through the exhaust effluent by any of the following

[18 AAC 50.050(a)(2) & 18 AAC 50.055(a)(1), 1/18/97]

26.1 more than 20% for more than three minutes in any one hour[5], or

[18 AAC 50.055(a)(1), 1/18/97, 40 CFR 52.70, 11/18/98]

26.2 more than 20% averaged over any six consecutive minutes.

[18 AAC 50.055(a)(1), 5/3/02]

27. The permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[5] For purposes of this permit, this condition will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA. The six-minute average standard (Condition 26.2) is in effect as a SIP requirement when EPA approves the SIP.

[18 AAC 50.055(b)(1), 1/18/97]

28. The permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97]

Section 8. Generally Applicable Requirements

29. Asbestos NESHAP. The permittee shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152, and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A to 40 CFR 61 Subpart M.

[18 AAC 50.040(b)(3) & 18 AAC 50.350(d)(1), 1/18/97]
[40 C.F.R. 61, Subpart M, 12/19/96]

30. Refrigerant and Halocarbon Recycling and Disposal. The permittee shall comply with the standards for recycling and emission reduction of Halon and refrigerants as set forth in 40 C.F.R. 82, Subparts F through H.

[18 AAC 50.040(d) & 50.350(d)(1), 1/18/97]
[40 C.F.R. 82, Subpart F, 7/1/97]
[Federal Citation: 40 C.F.R. 82.270(b) – (f)]
[Federal Citation: 40 C.F.R. 82.174(b) – (d)]

31. Facilities Containing NSPS and NESHAPS Sources. The permittee shall comply with the requirements of 40 C.F.R. 60 New Source Performance Standards (NSPS), 40 C.F.R. 61 National Emission Standards for Hazardous Air Pollutants (NESHAPS) and 40 C.F.R. 63 National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Source Categories as they apply to the facility.

[18 AAC 50.040(a) & (c), 7/2/00; 18 AAC 50.040(b), 1/18/97; 18 AAC 50.350(d)(1), 1/18/97]

32. Good Air Pollution Control Practice[6]. The permittee shall do the following for sources 1 through 22:

32.1 perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;

32.2 keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format;

32.3 keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.346(b(2), 5/3/02]

33. Dilution. The permittee shall not dilute emissions with air to comply with this permit.

[18 AAC 50.045(a), 1/18/97]

34. Bulk Materials Handling, Construction and Industrial Activities. A person who causes or permits bulk materials to be handled, transported, or stored, or who engages in an industrial activity or construction project shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air.

[18 AAC 50.045(d) & 18 AAC 50350(d)(1), 1/18/97]

[6] This condition does not apply to NSPS, NESHAPs and Part 82 sources.

35. Stack Injection. The permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, unless approved in writing by the department.

[18 AAC 50.055(g), 1/18/97]

36. Open Burning and Firefighter Training. The permittee shall comply with the applicable requirements of 18 AAC 50.065(a – k) when conducting open burning at the facility.

36.1 **Firefighter Training: Structures.** A fire service may open burn structures for firefighter training without ensuring maximum combustion efficiency under the following circumstances:

a. before igniting the structure, the fire service shall

(i) obtain department approval for the location of the proposed firefighter training; approval will be based on whether the proposed open burning is likely to adversely affect public health in the neighborhood of the structure;

(ii) visually identify materials in the structure that might contain asbestos, test those materials for asbestos, and remove all materials that contain asbestos;

(iii) ensure that the structure does not contain

(a) putrescible garbage;

(b) electrical batteries;

(c) stored chemicals such as fertilizers, pesticides, paints, glues, sealers, tars, solvents, household cleaners, or photographic reagents;

(d) stored linoleum, plastics, rubber, tires, or insulated wire;

(e) hazardous waste;

(f) lead piping;

(g) plastic piping with an outside diameter of four inches or more; or

(h) urethane or another plastic foam insulation;

(iv) provide public notice consistent with 18 AAC 50.065(j); and

(v) ensure that a fire-service representative is on-site before igniting the structure;

b. the fire service shall ignite and conduct training on only one main structure and any number of associated smaller structures at a time; examples of associated smaller structures are garages, sheds, and other outbuildings; and

c. the fire service shall respond to complaints in accordance with 18 AAC 50.065(k).

36.2 **Firefighter Training: Fuel Burning**. Unless a greater quantity is approved by the department, a fire service may open burn up to 250 gallons of uncontaminated fuel daily and up to 600 gallons yearly for firefighter training without ensuring maximum combustion efficiency. To conduct this training without prior written department approval, the fire service shall

a. provide public notice consistent with 18 AAC 50.065(j) before burning more than 20 gallons of uncontaminated fuel, unless waived in writing by the department; and

b. respond to complaints in accordance with 18 AAC 50.065(k).

37. Air Pollution Prohibited. No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.346(a)(2), 5/3/02; 18 AAC 50.110, 5/26/72; 18 AAC 50.040(e), 7/2/00]

37.1 If emissions present a potential threat to human health or safety, the permittee shall report any such emissions according to Condition 52.

37.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the facility, the permittee shall investigate the complaint to identify emissions that the permittee believes have caused or are causing a violation of Condition 37.

37.3 The permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if

a. after an investigation because of a complaint or other reason, the permittee believes that emissions from the facility have caused or are causing a violation of Condition 37; or

b. the department notifies the permittee that it has found a violation of Condition 37.

37.4 The permittee shall keep records of

a. the date, time, and nature of all emissions complaints received;

b. the name of the person or persons that complained, if known;

c. a summary of any investigation, including reasons the permittee does or does not believe the emissions have caused a violation of Condition 37; and

d. any corrective actions taken or planned for complaints attributable to emissions from the facility.

37.5 With each facility operating report under Condition 54, the permittee shall include a brief summary report which must include

a. the number of complaints received;

b. the number of times the permittee or the department found corrective action necessary;

c. the number of times action was taken on a complaint within 24 hours; and

d. the status of corrective actions the permittee or department found necessary that were not taken within 24 hours.

37.6 The permittee shall notify the department of a complaint that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.350(h) – (i), 1/18/97]

38. Technology-Based Emission Standard. If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard, the permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard, and shall report the excess emissions under Condition 52.

[18 AAC 50.235(a) & 18 AAC 50.350(f)(3), 1/18/97]

39. Permit Renewal. To renew this permit, the permittee shall submit a complete application under 18 AAC 50.335 no sooner than June 28, 2006 and no later than June 29, 2007 to renew this permit**.**

[18 AAC 50.335(a), 1/18/97]

Section 9. General Source Testing and Monitoring Requirements

40. Requested Source Tests. In addition to any source testing explicitly required by the permit, the permittee shall conduct source testing as requested by the department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 1/18/97 & 18 AAC 50.345(k), 5/3/02]

41. Extension Request. The permittee may request an extension to a source test deadline established by the department. The permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the department's appropriate division director or designee.

[18 AAC 50.345(l), 5/3/02]

42. Test Plans. Before conducting any source tests requested per Condition 40, the permittee shall submit a plan to the department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance and must specify how the source will operate during the test and how the permittee will document that operation. The permittee shall submit a complete plan within 60 days after receiving a request under Condition 40 and at least 30 days before the scheduled date of any test unless the department agrees in writing to some other time period. Retesting may be done without resubmitting the plan. The permittee is not required to comply with this condition when the exhaust is observed for visible emissions, except in connection with required particulate matter testing.

[18 AAC 50.220(c)(3), 50.350(b)(3), 50.350(g) & 50.990(88), 1/18/97]
& 18 AAC 50.345(a) & (m), 5/3/02]

43. Test Notification. At least 10 days before conducting a source test requested per Condition 40, the permittee shall give the department written notice of the date and the time the source test will begin. The permittee is not required to comply with this condition when the exhaust is observed for visible emissions, except in connection with required particulate matter testing.

[18 AAC 50.345(a) & (n), 5/3/02, and 18 AAC 50.350(b)(3), 1/18/97]

44. Test Reports. Within 60 days after completing a source test requested per Condition 40, the permittee shall submit two copies of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The permittee shall certify the results in accordance with Condition 48. If requested in writing by the department, the permittee must provide preliminary results in a shorter period of time specified by the department. The permittee is not required to comply with this condition when the exhaust is observed for visible emissions, except in connection with required particulate matter testing.

[18 AAC 50.350(b)(3) and 18 AAC 50.350(h) – (i), & 18 AAC 50.345(a) & (o), 5/3/02]

45. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the permittee shall conduct source testing

45.1 at a point or points that characterize the actual discharge into the ambient air; and

45.2 at the maximum rated burning or operating capacity of the source or another rate determined by the department to characterize the actual discharge into the ambient air.

[18 AAC 50.220(a), 1/18/97]

46. Reference Test Methods. The permittee shall use the following as reference test methods, or other methods approved by the department when conducting source testing or visible emissions observations for compliance with this permit.

46.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.040(a), 7/2/00, 18 AAC 50.220(c)(1)(A) and 18 AAC 50.350(g), 1/18/97]
[Federal Citation: 40 C.F.R. 60, 7/1/99]

46.2 Source testing for emissions of particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified 40 C.F.R. 60, Appendix A.

[18 AAC 50.040(a)(4), 7/2/00, 18 AAC 50.220(c)(1)(E) and 18 AAC 50.350(g), 1/18/97]
[Federal Citation: 40 C.F.R. 60, Appendix A, 7/1/99]

46.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.040(b), 50.220(c)(1)(B) & 50.350(g), 1/18/97]
[40 C.F.R. 61, 12/19/96]

46.4 Visible emissions observations for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in 40 C.F.R. 60, Appendix A Method 9.

[18 AAC 50.030, 12/30/00]
[18 AAC 50.220(c)(1)(D) & 50.350(g), 1/18/97]

47. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3), & 18 AAC 50.990(88), 5/3/02]

Section 10. General Recordkeeping, Reporting, and Compliance Certification Requirements

48. Certification. The permittee shall certify all reports, compliance certifications, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission and permit deviation reports submitted under Condition 52 must be certified upon submittal or with the facility operating report required by Condition 54 for the same reporting period. All other reports and other documents must be certified upon submittal. When certifying a compliance certification, the official's signature must be notarized.

[18 AAC 50.205, 8 AAC 50.350(b)(3), 18 AAC 50.350(i) 1/18/97, and 18 AAC 50.345(j), 5/3/02]

49. Submittals. Unless otherwise directed by the department or this permit, the permittee shall send reports, compliance certifications, and other documents required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician.

[18 AAC 50.350(i), 1/18/97]

50. Information Requests. The permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the permittee shall furnish to the department copies of records required to be kept by this permit. The department may require the permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.200, 18 AAC 50.350(b)(3), 18 AAC 50.350(g) – (i), 1/18/97, & 18 AAC 50.345(i), 5/3/02]

51. Recordkeeping Requirements. The permittee shall keep all records required by this permit for at least five years after the date of collection, including

51.1 Copies of all reports and certifications submitted pursuant to this section of the permit.

51.2 Records of all monitoring required by this permit, and information about the monitoring including

a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;

b. sampling dates and times of sampling or measurements;

c. the operating conditions that existed at the time of sampling or measurement;

d. the date analyses were performed;

e. the location where samples were taken;

f. the company or entity that performed the sampling and analyses;

g. the analytical techniques or methods used in the analyses; and

h. the results of the analyses.

[18 AAC 50.350(h), 1/18/97]

52. Excess Emission and Permit Deviation Reports.

52.1 Except as provided in Condition 37, the permittee shall report to the department all emissions or operations that exceed or deviate from the requirements of this permit as follows:

a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commences or is discovered, report

(i) emissions that present a potential threat to human health or safety; and

(ii) excess emissions that the permittee believes to be unavoidable;

b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;

c. report all other excess emissions and permit deviations

(i) within 30 days of the end of the month in which the emissions or deviation occurs or was discovered, except as provided in Conditions 52.1c(ii);

(ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the department provides written permission to report under Condition 52.1c(i).

(iii) for failure to monitor, as required in other applicable conditions of this permit.

52.2 When reporting excess emissions, the permittee must report using either the department's online form, which can be found at http://www.state.ak.us/dec/dawq/aqm/eeform.pdf, or if the permittee prefers, the form contained in Section 15 of this permit. The permittee must provide all information called for by the form that is used.

52.3 When reporting a permit deviation, the permittee must report using the form contained in Section 15 of this permit. The permittee must provide all information called for by the form.

52.4 If requested by the department, the permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

[18 AAC 50.346(a)(3), 5/3/02, 18 AAC 50.235(a)(2), 18 AAC 50.240(c) & 18 AAC 50.350(i), 1/18/97]

53. NSPS and NESHAP Reports. The permittee shall:

53.1 attach to the facility operating report required by Condition 54, copies of any 40 C. F. R. Part 60, 61, and 63 reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 as required by Conditions 29 and applicable portions of Conditions 8 through 12; and

53.2 upon request by the department, notify and provide a written copy of any EPA-granted waiver of the federal emission standards, record keeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules.

[18 AAC 50.040, 7/2/00 & 18 AAC 350(i)(2), 1/18/97]
[40 C.F.R. 60 & 40 C.F.R. 61, 7/1/99]

54. Facility Operating Reports. During the life of this permit, the permittee shall submit to the department an original and two copies of an operating report by August 1 for the period January 1 to June 30 and by February 1 for the period July 1 to December 31 of the previous year.

54.1 The operating report must include all information required to be in operating reports by other conditions of this permit.

54.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under Condition 52 either

a. the permittee shall identify

(i) the date of the deviation;

(ii) the equipment involved;

(iii) the permit condition affected;

(iv) a description of the excess emissions or permit deviation; and

(v) any corrective action or preventive measures taken and the date or dates of such actions; or

54.3 when excess emissions or permit deviations have already been reported under Condition 52, the permittee may cite the date or dates of those reports.

54.4 The operating report must include a listing of emissions and operating hours monitored under Conditions 4 and 67.2 which triggered testing for visible emissions or PM whether or not the emissions monitored exceed an emission standard. The permittee shall include in the report

a. the date of the emissions;

b. the equipment involved;

c. the permit condition affected; and

d. the monitoring result which triggered the additional monitoring.

[18 AAC 50.346(b)(3), 5/3/02; 18 AAC 50.350(d)(4), 18 AAC 50.350(f)(3) & 18 AAC 50.350(i), 1/18/97]

55. Annual Compliance Certification. Each year by March 31, the permittee shall compile and submit to the department an original and two copies of an annual compliance certification report as follows:

55.1 For each permit term and condition set forth in Section 3 through Section 11 including terms and conditions for monitoring, reporting, and recordkeeping:

[18 AAC 50.350(d)(4), 1/18/97]

a. certify the compliance status over the preceding calendar year consistent with the monitoring required by this permit;

b. state whether compliance is intermittent or continuous;

c. briefly describe each method used to determine the compliance status; and

d. notarize the responsible official's signature.

55.2 Submit a copy of the report directly to the U.S. EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.350(j), 1/18/97]

Section 11. Standard Conditions Not Otherwise Included in the Permit

56. The permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those requirements designated as not federally-enforceable, the Clean Air Act, and is grounds for:

56.1 an enforcement action,

56.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or

56.3 denial of an operating-permit renewal application.

[18 AAC 50.345(c), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

57. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.345(d), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

58. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

[18 AAC 50.345(e), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

59. Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

59.1 included and specifically identified in the permit, or

59.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.345(b), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

60. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any operating permit condition.

[18 AAC 50.345(f), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

61. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.345(g), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

62. The permittee shall allow the department or an inspector authorized by the department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to

62.1 enter upon the premises where a source subject to the permit is located or where records required by the permit are kept;

62.2 have access to and copy any records required by the permit;

62.3 inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit; and

62.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.345(h), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

Section 12. Permit As Shield from Inapplicable Requirements

In accordance with AS 46.14.290, and based on information supplied in the facility application, this section of the permit contains the requirements determined by the department not to be applicable to the permitted facility. Permit shields that were requested but not granted are discussed in the Legal and Factual Basis document attached to this permit.

63. TABLE 2 identifies the sources that are not subject to the specified requirements at the time of permit issuance. Some of the requirements listed below may become applicable during the permit term due to an invoking event, even though the requirement is deemed inapplicable at the time of permit issuance. The permittees shall meet such requirements on a timely basis and if necessary submit a request for a compliance schedule in accordance with 18 AAC 50.350(k).

TABLE 2. Permit Shields Granted

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
Incinerator: 31-IN-1	18 AAC 50.050(a)(1) - Incinerator Emission Standards	Incinerator is not a "municipal wastewater treatment plant sludge incinerator," because it does not incinerate any sludge, including wastewater treatment plant sludge.
	18 AAC 50.050(b) Incinerator Emission Standards	There is no PM grain loading standard for incinerators with a rated capacity less than 1000 pounds per hour, which combusts wastes containing less than 10 percent sewage sludge (dry basis), or serves less than 10,000 persons.
	40 C.F.R. 60 Subpart E - Standards of Performance for Incinerators	Charging rate capacity less than threshold (50 tons/day) [40 C.F.R. 60.50(a)].
	40 C.F.R. 60 Subparts Ca, Ea, and Eb Standards of Performance for Municipal Waste Combustors	Commenced construction prior to effective date of subparts and capacity less than threshold (250 tons/day). The source has not been modified or reconstructed since the effective date of the standard.
	40 C.F.R. 60 Subpart O Standards of Performance for Sewage Treatment Plants	The incinerator has not and does not combust wastes containing 10 percent sewage sludge (dry basis) produced by a municipal sewage treatment plant that combusts more than 1,000 kg sewage sludge (dry basis) per day.
	40 C.F.R. 61 Subpart E - National Emission Standards for Mercury	These sources does not combust sewerage sludge.
	40 C.F.R. 60 Subpart Ce - Emission Guidelines for Existing Hospital/Medical/Infectious Waste Incinerators (HMIWI)	Historical records show that the incinerator meets the exemption criteria specified in 40 C.F.R. 60.32e (c)(3).

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
	40 C.F.R. 60 Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquids	Subpart K is a work practice standard. In the case *Adamo Wrecking*, 434 US 257 (1978), the U.S. Supreme Court determined that work practices standards were not authorized by the Clean Air Act. The EPA documented this decision for purposes of Subpart K in a memorandum dated August 10, 1979. EPA transmitted a specific letter to Alyeska stating the application of the decision for the crude oil tanks. Therefore, Subpart K is not enforceable.
	40 C.F.R. 60 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids	Commenced construction prior to effective date of subpart (May 18, 1978). The tanks have not been modified or reconstructed since the effective date of the standard. The tanks are crude oil breakout tanks (not storage vessels as defined in 40 C.F.R. 60) and part of a pipeline system as defined by 49 C.F.R. 195.2.
Tanks: 110 111	40 C.F.R. 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)	Commenced construction prior to effective date of subpart (July 23, 1984). The tanks have not been modified or reconstructed since the effective date of the standard. The tanks are crude oil breakout tanks (not storage vessels as defined in 40 C.F.R. 60) and part of a pipeline system as defined by 49 C.F.R. 195.2.
	40 C.F.R. 60 Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquids	Subpart K is a work practice standard. In the case *Adamo Wrecking*, 434 US 257 (1978), the U.S. Supreme Court determined that work practices standards were not authorized by the Clean Air Act. The EPA documented this decision for purposes of Subpart K in a memorandum dated August 10, 1979. EPA transmitted a specific letter to Alyeska stating the application of the decision for the crude oil tanks. Therefore, Subpart K is not enforceable. In addition, the tank was not modified or reconstructed during the applicable time period of Subpart K, and diesel fuel oils are excluded from the definition of a petroleum liquid [40 C.F.R. 60.111(b)].
	40 C.F.R. 60 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids	Commenced construction prior to effective date of subpart (May 18, 1978). The tank has not been modified or reconstructed since the effective date of the standard. In addition, diesel fuel oils are excluded from the definition of a petroleum liquid [40 C.F.R. 60.111a(b)].
Tank: 117	40 C.F.R. 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)	Commenced construction prior to effective date of subpart (July 23, 1984). The tanks have not been modified or reconstructed since the effective date of the standard.

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
Gas Turbines 31-C-10-1802T, 31-C-10-1803T, 31-P-1AT, 31-P-1BT, 31-P-1CT When equipped with either Solar turbine engine S/N 0756S21 or 0753S21	40 C.F.R. 60 Subpart GG - Standards of Performance for Stationary Gas Turbines: §60.332(a)(1) - Standards for NO_X	Standard applies to *Electric Utility Stationary Gas Turbines*, as defined in 40 C.F.R. 60.331(q). These sources do not provide any electric power to utility power distribution systems [40 C.F.R. 60.332(b)].
	§60.334(a) - Monitoring of Operations §60.335(c)(1) - Test Methods and Procedures	Applies only to affected turbines equipped with water injection to control emissions of NO_X. Source is not equipped with water or steam injection to control emissions of NO_X. The turbines meet the standard without controls.
	§60.334(b) - Monitoring of Operations (**Fuel Nitrogen Only**) §60.335(a) - Test Methods and Procedures	EPA Region X waived fuel nitrogen monitoring for NSPS affected stationary gas turbines (ref. correspondence dated 12/29/82).
	40 C.F.R. 60 Subpart A - General Provisions §60.7(a)(1), (2) & (3) - Notification and Recordkeeping §60.8(a) - Performance Test (**Initial Performance Test Only**) §60.335(b), (c)(1), (c)(3) - Test Methods and Procedures	Notifications required by Subpart A were fulfilled (see APSC Letter 97-11973 dated July 15, 1997 to B. Thie, EPA Region X)
	§60.7(a)(4) - Notification and Recordkeeping	This requirement only applies to "existing facilities", as defined in 40 C.F.R. 60.2.
Gas Turbines: Source IDs 1-10. However for sources IDs 6-10 when not equipped with either Solar turbine engine S/N 0756S21 or 0753S21	40 C.F.R. 60 Subpart GG - Standards of Performance for Stationary Gas Turbines	Commenced construction prior to effective date of subpart (10/3/77). At the time of this application, turbines have not been modified or reconstructed, as defined in 40 C.F.R. 60.14 or §60.15, respectively.
Gas Turbines: Sources IDs 11-15	40 C.F.R. 60 Subpart GG	Maximum heat input capacity at peak load less than 10.7 gigajoules per hour (10 MMBtu/hr) (based on lower heating value of fuel fired).
Eclipse Therminol Heaters: *31-H-1A* *31-H-1B* *31-H-1C*	40 C.F.R. 60 Subpart Dc	Commenced construction prior to effective date of subpart (6/9/89). At the time of this application, boilers have not been modified or reconstructed, as defined by 40 C.F.R. 60.14 or 60.15, respectively.

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
Sewage Stack Injection System(s)	40 C.F.R. 60 Subpart O - Standards of Performance for Sewage Treatment Plants	Sewage Stack Injection System is not an incinerator, as defined in 18 AAC 50. Stack injection is designed to destroy biological waste, but is not used for "thermal oxidation" of waste. The injected sewage is not sewage sludge because the settlable solids are removed from the sewage prior to injection [40 C.F.R. 60.150].
Facility-Wide	40 C.F.R. 60 Subpart LLL - Standards of Performance for Onshore Natural Gas Processing Plants	Facility does not process natural gas [40 C.F.R. 60.640] and commenced construction prior to effective date of subpart (January 20, 1984). Facility has not been modified or reconstructed since the effective date of the standard.
Flare: 31-FS-1	40 C.F.R. 60 Subpart A - General Provisions §60.18 - General Control Device Requirements	Flare is not a control device used to comply with any subpart of 40 C.F.R. 60.
Facility-Wide	40 C.F.R. 61 Subpart A - General Provisions	Other that the asbestos renovation and demolition requirements of Subpart M this subpart does not apply to this facility because it only applies where there are subparts applicable to the facility and no other Part 61 subparts apply to this facility.
Facility-Wide	40 C.F.R. 61 Subpart J - National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene	No process components in *benzene service*, as defined by subpart (10 percent benzene by weight) [40 C.F.R. 61.110 and 61.111].
Facility-Wide	40 C.F.R. 61 Subpart V - National Emission Standard for Equipment Leaks (Fugitive Emission Sources)	No process components in *volatile hazardous air pollutant (VHAP) service*, as defined by subpart (≥10 percent VHAP by weight) [40 C.F.R. 61.241 and 61.245]. This subpart only applies where identified by another applicable Part 61 subpart [40 C.F.R. 61.240].
Facility-Wide	40 C.F.R. 61 Subpart Y - National Emission Standard for Benzene Emissions from Benzene Storage Vessels	The facility does not have storage tanks that store benzene as defined by the standards in 40 C.F.R. 61.270(a).
Facility-Wide	40 C.F.R. 61 Subpart BB - National Emission Standard for Benzene Emissions from Benzene Transfer Operations	Crude oil and petroleum distillates are exempt from this subpart [40 C.F.R. 61.300]. Other than crude oil and other petroleum distillates there are no other benzene containing substances where loading occurs at this facility.
Facility-Wide	40 C.F.R. 61 Subpart FF - National Emission Standard for Benzene Waste Operations	This subpart only applies to chemical manufacturing plants, coke byproduct recovery plants and petroleum refineries [40 C.F.R. 61.340]. This facility does not include any of those activities.
Facility-Wide	40 C.F.R. 61 Subpart M - National Emission Standard for Asbestos §61.142 - Standard for Asbestos Mills	Facility is not an Asbestos Mill.
Facility-Wide	§61.144 - Standard for Manufacturing	Facility does not engage in any manufacturing operations using commercial asbestos.

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
Facility-Wide	§61.146 - Standard for Spraying	Facility does not spray apply asbestos containing materials.
Facility-Wide	§61.147 - Standard for Fabricating	Facility does not engage in any fabricating operations using commercial asbestos.
Facility-Wide	§61.149 - Standard for Waste Disposal for Asbestos Mills	Applies only to those facilities subject to 40 C.F.R. 61.142 (Asbestos Mills).
Facility-Wide	§61.151 - Standard for Inactive Waste Disposal Sites for Asbestos Mills and Manufacturing and Fabricating Operations	Applies only to those facilities subject to 40 C.F.R. 61.142, 61.144, or 61.147 (Asbestos Mills, manufacturing or fabricating).
Facility-Wide	§61.153 - Standard for Reporting	No reporting requirements apply for sources subject to 40 C.F.R. 61.145 (demolition and renovation) [40 C.F.R. 61.153(a)].
Facility-Wide	§61.154 - Standard for Active Waste Disposal Sites	Facility not an active waste disposal site and does not receive asbestos containing waste material.
Facility-Wide	§61.155 - Standard for Inactive Waste Disposal Sites for Asbestos Mills and Manufacturing and Fabricating Operations	Facility does not process regulated asbestos containing material (RACM).
Facility-Wide	40 C.F.R. 63 Subpart T - National Emission Standards for Halogenated Solvent Cleaning	Facility does not operate halogenated solvent cleaning machines.
Storage Tanks	40 C.F.R. 63 Subpart OO - National Emission Standards for Tanks - Level 1	Provisions only apply to tanks subject to a subpart of 40 C.F.R. 60, 61, or 63 that specifically reference 40 C.F.R. 63 Subpart OO. The facility does not include any tanks subject to any subpart of Part 60, 61, or 63.
Portable Storage Containers	40 C.F.R. 63 Subpart PP - National Emission Standards for Containers	Provisions only apply to portable containers, as defined in §63.921, subject to a subpart of 40 C.F.R. 60, 61, or 63 that specifically references 40 C.F.R. 63 Subpart PP. The facility does not include any containers subject to any subpart of Part 60, 61, or 63.
Drain Systems	40 C.F.R. 63 Subpart RR - National Emission Standards for Individual Drain Systems	Provisions only apply to drain systems affected by 40 C.F.R. 60, 61, or 63 that specifically reference 40 C.F.R. 63 Subpart RR. The facility does not include any drain systems subject to any subpart of Part 60, 61, or 63 [40 C.F.R. 63.960].
Oil-Water Separators	40 C.F.R. 63 Subpart VV - National Emission Standards for Oil-Water Separators and Organic-Water Separators	EPA stated that these provisions were placed within this standard only for convenience and only where a facility is subject to another Part 60, 61, or 63 subpart that references Subpart VV [40 C.F.R. 63.1040]. This facility is not subject to any subpart in Part 60, 61, or 63 that references Subpart VV.
Facility-Wide	40 C.F.R. 68 - Accidental Release: Risk Management Plan (RMP)	Part 68 only includes those facilities defined as "stationary sources" at 40 C.F.R. 68.3. "Stationary source" expressly excluded 49 C.F.R. Part 195 facilities. PS-1 is a 49 C.F.R.

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
		Part 195 facility. Further, EPA has stayed the definition of stationary source where it includes crude oil entering a petroleum refining process unit [40 C.F.R. 68.2]. Therefore, crude oil entering PS-1, which is not a petroleum refining process unit, is not subject to Part 68. If the definition of stationary source is amended and the stay is lifted then APSC is prepared to comply with Part 68 through a permit term found in the section entitled "Requirements that are Applicable if Triggered."
Facility-Wide	40 C.F.R. 82.1 Subpart A - Production and Consumption Controls	Facility does not produce, transform, destroy, import or export Class 1 or Group I or II substances or products.
Facility-Wide	40 C.F.R. 82.30 Subpart B - Servicing of Motor Vehicle Air Conditioners	Facility does not service motor vehicle air conditioners.
Facility-Wide	40 C.F.R. 82.60 Subpart C - Ban on Nonessential Products Containing Class I Substances and Ban on Nonessential Products Containing or Manufactured with Class II Substances	Facility does not manufacture or distribute Class I and II products or substances.
Facility-Wide	40 C.F.R. 82.80 Subpart D - Federal Procurement	Subpart applies only to Federal departments, agencies, and instrumentalities.
Facility-Wide	40 C.F.R. 82.100 Subpart E - The Labeling of Products Using Ozone-Depleting Substances	Facility does not manufacture or distribute Class I and II products or substances.
Facility-Wide	40 C.F.R. 82.158 Subpart F - Recycling and Emissions Reduction	Facility does not manufacture or import recovery and recycling equipment.
Facility-Wide	40 C.F.R. 82.160 - Recycling and Emissions Reduction	Facility does not contract equipment testing organizations to certify recovery and recycling equipment.
Facility-Wide	40 C.F.R. 82.164 - Recycling and Emissions Reduction	Facility does not sell reclaimed refrigerant.
Facility-Wide	18 AAC 50.055(a)(2) - (a)(9)	Facility does not operate sources specific to the listed standards.
Facility-Wide	18 AAC 50.055(b)(2) - (b)(6)	Facility does not operate sources specific to the listed standards.
Facility-Wide	18 AAC 50.055(d) - (f)	Facility does not operate sources specific to the listed standards.
Facility-Wide	18 AAC 50.075	Facility sources do not combust wood.

[18 AAC 50.350(l), 1/18/97]

Section 13. Visible Emissions and PM Monitoring, Recordkeeping and Reporting

Visible Emissions Observations for Liquid Fuel Combustion

64. Visible Emissions Monitoring. When burning liquid fuel for more than 400 hours per source in any calendar year the permittee shall observe the exhaust of sources IDs 4, 5, and 11 through 20 for visible emissions using the Method 9 Plan under Condition 64.1.

[18 AAC 50.350(g), 1/18/97 & 50.346(c), 5/3/02]

64.1 **Method 9 Plan.** For all 18-minute observations in this plan, observe exhaust, following 40 C.F.R. 60, Appendix A, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

a. First Method 9 Observation. Observe exhaust for 18 minutes within the first 30 days of operation of the source after 400 hours of operation on liquid fuel in any calendar year.

b. Monthly Method 9 Observations. After satisfying 64.1a, for any month the source operates equal to or more than 12 hours then perform an 18 minute observation during the following calendar month. If the source does not operate 12 hours in that following month, then perform the 18-minute observation during the next calendar month the source does operate for 12 hours or more. There shall be only three monthly observations per source under this condition.

c. Semiannual Method 9 Observations. After satisfying 64.1b, perform an 18-minute observation during any calendar month in the next consecutive 6-month period if the source continues to operate at least 12-hours in each month of the six-month cycle. Complete two observations under this schedule, and each observation must be during the second, third or fourth month of each six-month cycle. If the source exhibits a six-minute average greater than 15 percent and one or more observations are greater than 20 percent, observe emissions in accordance with 64.1e.

d. Annual Method 9 Observations. After satisfying 64.1c, perform an 18-minute observation during any calendar month in the next 12-month period if the source continues to operate at least 12 hours in each month of the 12-month cycle. Complete a single observation each 12-month cycle, and each observation must be during the fourth, fifth, sixth, seventh, eight or ninth month of each 12-month cycle. If the source exhibits a six-minute average greater than 15 percent during and one or more observations are greater than 20 percent, then comply with 64.1e.

e. Increased Method 9 Frequency. If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that source to monthly observations in accordance with condition 64.1b, until the criteria in condition 64.1c for semiannual monitoring are met.

65. Visible Emissions Record Keeping. The permittee shall keep the following records in accordance with this condition.

[18 AAC 50.350(h) & 50.346(c), 5/3/02]

65.1 the observer shall record

a. the name of the facility, emissions source and location, facility type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet below;

b. the time, estimated distance to the emissions location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;

c. the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;

d. opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation Record below; and

e. the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period;

65.2 to determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet;

a. calculate and record the highest 18-consecutive-minute average observed.

66. Visible Emissions Reporting. The permittee shall report, in each facility operating report under Condition number 54, visible emissions as follows:

[18 AAC 50.350(i), 1/18/97 & 50.346(c), 5/3/02]

66.1 for each source,

a. copies of the observation results (i.e. opacity observations) except for the observations the permittee has already supplied to the department; and

b. a summary to include:

(i) number of days observations were made;

(ii) highest six-minute average observed; and

(iii) dates when one or more observed six-minute averages were greater than 20 percent; and

66.2 a summary of any monitoring or record keeping required under Conditions 64 and 65 that was not done;

66.3 report as an excess emission or permit deviation under Condition 52:

a. the results of Method 9 observations that exceed an average 20 percent for any six-minute period; and

b. if any monitoring under Condition 64 was not performed when required, report within three days of the date the monitoring was required.

67. Particulate Matter Monitoring for Diesel Engines and Liquid-Fired Turbines. The permittee shall conduct source tests on diesel engines and liquid-fired turbines, sources ID 4, 5, 11 through 15, and 20 if operated on liquid fuel over 400 hours per calendar year, to determine the concentration of particulate matter (PM) in the exhaust of a source in accordance with this Condition 67.

67.1 Within six months of exceeding the criteria of Condition 67.2a or 67.2b, either

a. conduct a PM source test according to conditions in Section 9; or

b. make repairs so that emissions no longer exceed the criteria of Condition 67.2; to show that emissions are below those criteria, observe emissions as described in Condition 64.1 under load conditions comparable to those when the criteria were exceeded.

67.2 Conduct the test according to Condition 67.1 if

a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or

b. for a source with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the department has waived this requirement in writing.

67.3 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.

67.4 The automatic PM source test requirement in Condition 67.1 and 67.2 is waived for an emissions unit if a PM source test on that unit has shown compliance with the PM standard during this permit term.

[18 AAC 50.346(c), 5/3/02]

68. Particulate Matter Record Keeping for Diesel Engines and Liquid-Fired Turbines. Within 180 calendar days after the effective date of this permit, the permittee shall record the exhaust stack diameter(s) of source(s) 4, 5, 11 through 15 and 20. Report the stack diameter(s) in the next operating report under Condition 54.

[18 AAC 50.346(c), 5/3/02]

69. Particulate Matter Reporting for Diesel Engines and Liquid-Fired Turbines. The permittee shall report as follows:

[18 AAC 50.350(i), 1/18/97 & 50.346(c), 5/3/02]

69.1 report under Condition 52

a. the results of any PM source test that exceeds the PM emissions limit; or

b. if one of the criteria of Condition 67.2 was exceeded and the permittee did not comply with either Condition 67.1a or 67.1b, this must be reported by the day following the day compliance with Condition 67.1 was required;

69.2 report observations in excess of the threshold of Condition 67.2b within 30 days of the end of the month in which the observations occur;

69.3 in each facility operating report under Condition number 54, include

a. the dates, source IDs, and results when an observed 18-minute average was greater than an applicable threshold in Condition 67.2;

b. a summary of the results of any PM testing under Condition 67; and

c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of Condition 67.2, if they were not already submitted.

Particulate Matter from Liquid Fired Heaters (Source IDs 16 through 19)

70. Particulate Matter Monitoring. If operated for more than 400 hours per calendar year and more than 12 hours per month on liquid fuel, the permittee shall conduct source tests on Source IDs 16 through 19 to determine the concentration of PM in the exhaust of Source IDs 16 through 19 as follows:

70.1 If corrective maintenance performed within the first 180 days of exceeding the visible emissions standard in Condition 4, as observed under Condition 64.1, fails to eliminate visible emissions greater than 20 percent opacity, conduct a PM source test according to the requirements set out in Section 9 within 90 days. To show that the emissions are below the 20% opacity criteria, observe emissions as described in condition 64.1 under load conditions comparable to those when the criteria was exceeded.

70.2 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.

70.3 The PM source test requirement in Condition 70.1 is waived for an emission unit if:

a. a PM source test on that unit has shown compliance with the PM standard during this permit term, or

b. if a follow-up visible emission observation conducted using Method-9 during the 90 days shows that the excess visible emissions described in Condition 70.1 no longer occur.

[18 AAC 50.350(g), 1/18/97 & 50.346(c), 5/3/02]

71. Particulate Matter Record Keeping. The permittee shall keep records of the results of any PM testing and visible emissions observations conducted under Conditions 70.1 and 70.2

[18 AAC 50.350(g) – (h), 1/18/97]

72. Particulate Matter Reporting. The permittee shall report as follows:

72.1 In each facility operating report required by condition 54, include

a. the dates, Source ID(s), and results when an 18-minute opacity observation was greater than the applicable threshold criterion in Condition 70.1

b. a summary of the results of any PM testing and visible emissions observations conducted under Conditions 70.1 and 70.2.

72.2 Report as excess emissions, in accordance with Condition 52, any time the results of a source test for PM exceeds the PM emission limit stated in condition 6.

[18 AAC 50.350(i), 1/18/97]

Visible Emissions Field Data Sheet

Certified Observer: _____

Company: _____

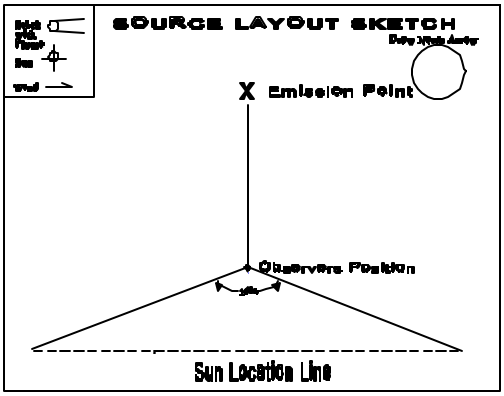
Location: _____

Test No.: _____ Date: _____

Source: _____

Production Rate, Operating Rate & Unit Operating Hours: _____

Hrs. of observation: _____



Clock Time	Initial				Final
Observer location Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description: Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Visible Emissions Observation Record

Page ___ of ___

Company _____ Certified Observer_____

Test Number _____ Clock time_____

Date:		Visibility reduction every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional information:

_____
Observer Signature

Data Reduction:
Duration of Observation Period (minutes) _____
Number of Observations _____
Number of Observations exceeding 20% _____

Average Opacity Summary

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 14. Material Balance Calculation

If the sulfur content of any fuel combusted is high, calculate the three-hour exhaust concentration of SO_2 using the following equations:

A = 31,200 X [**wt%S_{fuel}**] = 31,200 X _____ = _____

B = 0.148 X [**wt%S_{fuel}**] = 0.148 X _____ = _____

C = 0.396 X [**wt%C_{fuel}**] = 0.396 X _____ = _____

D = 0.933 X [**wt%H_{fuel}**] = 0.933 X _____ = _____

E = B + C + D = _____ + _____ + _____ = _____

F = 21 – [**vol%$_{dry}O_{2,\ exhaust}$**] = 21 - _____ = _____

G = [**vol%$_{dry}O_{2,\ exhaust}$**] ÷ F = _____ ÷ _____ = _____

H = 1 + G = 1 + _____ = _____

I = E x H = _____ x _____ = _____

SO_2 concentration = A ÷ I = _____ ÷ _____ = _____ PPM

The **wt%S_{fuel}**, **wt%C_{fuel}**, and **wt%H_{fuel}** are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to Condition 7.2a. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (**vol%$_{dry}O_{2,\ exhaust}$**) is obtained from oxygen meters, manufacturer's data, or from the most recent ORSAT analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt%S_{fuel}** = 1.0%, then enter 1.0 into the equations not 0.01 and if **vol%$_{dry}O_{2,\ exhaust}$** = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.350(g), 1/18/97]

Section 15. ADEC Notification Form

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

Alyeska Pipeline Service Company
Company Name

Pump Station 1 (PS-1)
Facility Name

Reason for notification:

❑ **Excess Emissions** — *If you checked this box Fill out section 1*

❑ **Other Deviation from Permit Condition** — *If you checked this box fill out section 2*

When did you discover the Excess Emissions or Other Deviation:
Date:__/__/__ Time:__:__

Section 1. Excess Emissions

(a) Event Information (Use 24-hour clock)**:**

	START Time**:**	**END** Time: **Duration** (hr:min):
Date: _____	_____:_____	_____:_____
Date: _____	_____:_____	_____:_____
		Total: _____:_____

(b) Cause of Event (Check all that apply)**:**

❑ START UP EQUIPMENT ❑ UPSET CONDITION ❑ CONTROL
❑ SHUT DOWN ❑ SCHEDULED MAINTENANCE ❑ OTHER _____

Attach a detailed description of what happened, including the parameters or operating conditions exceeded.

(c) Sources Involved:

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device
_____	_____	_____	_____
_____	_____	_____	_____

(d) Emission Limit Potentially Exceeded

Identify each emission standard potentially exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Identify what observation or data prompted this report. Attach additional sheets as necessary.

Permit Condition	Limit	Emissions Observed
_____	_____	_____
_____	_____	_____

(e) Excess Emission Reduction:

Attach a description of the measures taken to minimize and/or control emissions during the event.

(f) Corrective Actions:

Attach a description of corrective actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence.

(g) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable?

❑ YES ❑ NO

Do you intend to assert the affirmative defense of 18 AAC 50.235?

❑ YES ❑ NO

Section 2. Other Permit Deviations

(a) Sources Involved:

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device

(b) Permit Condition Deviation:

Identify each permit condition deviation or potential deviation. Attach additional sheets as necessary.

Permit Condition	Potential Deviation

(c) Corrective Actions:

Attach a description of actions taken to correct the deviation or potential deviation and to prevent recurrence.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name:

Signature: Date

Alaska Department of Environmental Conservation

Air Permits Program

November 22, 2002

Alyeska Pipeline Service Company

Pump Station #1

LEGAL AND FACTUAL BASIS

of the terms and conditions for

Permit No. 072TVP01

Prepared by J. Coutts

Issued: November 22, 2002
Expires: December 31, 2007

INTRODUCTION

This document sets forth the legal and factual basis for the terms and conditions of Operating Permit No. 072TVP01.

The Pump Station 1(PS 1) is a crude oil pumping facility. The purpose of Pump Station 1 is to pump crude oil as part of the transportation of Alaska North Slope crude oil by the Trans Alaska Pipeline System (TAPS). Pump Station 1 is the northern terminus of TAPS and is where the pipelines from the North Slope oil fields deliver their oil for transportation. The facility is operated by Alyeska Pipeline Service Company. Alyeska Pipeline Service Company is the permittee for the facility's operating permit.

PROCESS DESCRIPTION AND SOURCE INVENTORY

As provided in the application, the facility contains the following regulated sources: fifteen gas turbine drivers for pumps, compressors, and generators, one Diesel I.C. engine driver, four fired heaters, an incinerator, and a flare. The majority of the sources were installed prior to 1977. The majority of the facility sources operate using gas (commonly called "fuel gas") supplied from the natural gas produced by the North Slope petroleum fields. This fuel gas is supplied to the facility via a pipeline.

The sources at the facility regulated in Operating Permit 072TVP01 are identified and described in TABLE 1 in Section 4 of the permit. The table is provided for information and identification purposes only. Specifically, the source rating/size provided in the table is not intended to create an enforceable limit.

EMISSIONS

The emission values shown in Table 1 were obtained from Alyeska's July 17, 2001, markup of the public notice draft permit 072TPV01. They were rounded off to the nearest ton. They do not include the temporary flare increase, which no longer exists.

Table 1. Emissions Summary

Pollutant	NO_X	CO	PM-10	SO_2	VOC
Potential Emissions (TPY) per AS 46.14.990(21)	773	552	122	39	31
Assessable Potential to Emit (TPY) under Condition 2.1	773	552	122	39	31

The assessable potential to emit is simply those regulated air contaminants for which the facility has the potential to emit quantities greater than 10 tons per year. The potential to emit emissions,

unless specifically noted in the permit, are not enforceable limits but rather estimates for the purpose of establishing PTE assessable emissions and facility classifications.

BASIS FOR REQUIRING AN OPERATING PERMIT

Pump Station 1 (PS-1) requires an operating permit because it has the potential to emit 100 tons per year (tpy) or more of a regulated air contaminant. **Pump Station 1 (PS-1)** meets the definition of operating permit facility in the state regulations at 18 AAC 50.325(b) & (c). **Pump Station 1 (PS-1)** is also a Prevention of Significant Deterioration (PSD) Major Facility as defined in 18 AAC 50.300(c)(1) because it has the potential to emit more than 250 tpy of a regulated air contaminant in an area classified as attainment or unclassifiable. **Pump Station 1 (PS-1)** commenced construction prior to August 1977.

Alaska regulations require operating permit applications to include identification of "regulated sources." As applied to **Pump Station 1 (PS-1)**, the state regulations require a description of:

Each incinerator, including a demonstration showing each requirement in 18 AAC 50.050, Incinerator Emissions Standards, that applies [18 AAC 50.335(e)(4)(A)];

Each source regulated by a standard in 18 AAC 50.055, Industrial Processes and Fuel Burning Equipment [18 AAC 50.335(e)(4)(C)];

Each source subject to a standard adopted by reference in 18 AAC 50.040 [18 AAC 50.335(e)(2)]; and

Sources subject to requirements in an existing DEC permit [18 AAC 50.335(e)(5)]

The emission sources at **Pump Station 1 (PS-1)** classified as "regulated sources" according to the above DEC regulations are listed in the permit's TABLE 1 Source inventory.

CURRENT AIR QUALITY PERMITS

Construction Permits

Construction Permit Number 9872-AC021 which amended operating permit 9572-AA012 was issued to this facility on December 4, 1998. This construction permit revoked former source-specific terms contained in former 18 AAC 50.400 AQC Permit to Operate No. 9572-AA012. It did not add any new permit terms or requirements. The facility-specific requirements in this construction permit are included in the new operating permit as described in Table 2 below. As provided by 18 AAC 50.315(d) Permit 072TVP01 does not address all the Construction permit requests contained in Alyeska Letter No. 00-16578, dated December 15, 2000. The requests granted by the department in this permit are limited to the removal of "boilerplate" standard terms in the former 18 AAC 50.400 AQC Permit. The changes did not result in the deletion of any legal source specific limit, or the relaxation of an existing monitoring term, contained in the former permit.

Title-V Operating Permit Application History

The owner or operator signed an application on October 1, 1997.

The owner or operator supplemented the application on March 6, 2000, and additional information was received after March 6, 2000.

The draft permit was revised based upon some of the comments received from Alyeska on February 5, 2001, July 17, 2001, and November 12, 2001 and some of the construction permit requests contained in Alyeska Letter No. 00-16578, dated December 15, 2000.

COMPLIANCE HISTORY

The facility has operated at its current location since 1977. Review of the permit files for this facility, which includes the past inspection reports indicate a facility generally operating in compliance with its operating permit

The flare (source 22) has had a history of exceeding the opacity standard during pipeline upset conditions when large volumes of crude oil were being diverted into the PS 1 crude oil tanks. The flare, which controls crude oil vapors, could not completely combust the large volumes of tank vapors generated without causing visible emissions. The flare vapor control efficiency was increased in 2001 by the addition of a large air blower, which provided more combustion air and enhanced the air/fuel mixing at the flare tip. On September 5, 2001, APSC demonstrated to the department that the flare could efficiently control the quantity of crude vapors generated during the periods that the tanks were receiving full crude flow.

In 1990, APSC and the department entered into a Compliance Order By Consent (COBC) 90-2-4-5-262-1 to resolve allegations regarding unauthorized modifications to the TAPS pump stations including the addition of rim cooling on the mainline turbines. The COBC established the original fuel limits for the Avon gas generators, which were incorporated in to the facility's former 18 AAC 50.400 air quality control permit issued in 1990. The mainline turbines are not equipped with rim cooling. PS 1 has not undergone PSD permitting since original construction.

OLD PERMIT REQUIREMENTS CARRIED FORWARD

18 AAC 50.350(d)(1)(D) requires that this permit include each facility specific requirement established in prior permit 9572-AA012 as amended by permit 9872-AC021. Table 2 considers all requirements. Permittee has made a request for a construction permit to revise permit 9572-AA012. Those conditions that can be revised/removed without the need for a construction permit are addressed in Table 2 below. Table 2 below lists the old requirement (condition) and the new condition that carries over the old requirement into new permit 072TVP01.

Table 2. A Comparison of Permit No. 9572-AA012 (issued before January 18, 1997) and 9872-AC012 Conditions to Operating Permit No. 072-TVP01 Conditions. [7]

Permit No. 9572-AA012 **/9872-AC021 condition number**	**Description of Requirement**	**Permit No. 072TVP01 Condition**	**How condition was revised**
Introductory paragraph and Exhibit A	Authority for permit and source list	Page 1, this basis document and Section 4	Same information, different format
Exhibit A	Listing exemption for sources rated <1 MMBtu/hr	None	Replaced by Section 7, Insignificant sources
1	Comply with ambient air quality standards	None	Now required only for construction permits.
2 and Exhibit B	Comply with most stringent emission standards, limits, & specifications	Conditions 4 - 23	Emission limits unchanged and now listed as conditions
3	Provide optimum control of emission	32	Same information, different format
6	Operating limit on Solar Turbine Electrics	19	Same limits
7	Fuel sulfur limit	7.2	Same limits
8	Sewage injection limit	14	Same limits
9	Garrett Turbine limits	21	Same limits
10	Eclipse Heater limit	22	Same limits
11	Broach Heater limit	23	Same limits
12 –16	Source testing Requirements	40 - 39	Same requirements
17 and Exhibit C	Avon Turbine limits	15	Same limits except unneeded RPM dropped
18 and Exhibit C	Fuel gas H2S limit	7.1	Same limits
19 and Exhibit C	Fuel sulfur analysis	7.2	Similar Requirements
20 – 21	Excess Emission reporting	52	Similar Requirements
22	Excess Emission reporting	54	Similar Requirements
23	Facility access	62	Similar Requirements
24	Operating report	54	Similar Requirements
25	Record keeping	51	Similar Requirements
26	Display permit	None	No longer required

LEGAL AND FACTUAL BASIS FOR THE PERMIT CONDITIONS

Conditions 1 - 3, Fee Requirements

Legal Basis: [18 AAC 50.350(c) & 18 AAC 50.400 – 420, 1/18/97]

The regulations require all permits to include due dates for the payment of fees and any method the permittee may use to re-compute assessable emissions.

Factual Basis: These conditions require the permittee to pay fees in accordance with the department's billing regulations. The department's billing regulations set the due dates for payment of fees based on the billing date.

[7] This table does not include all standard and general conditions.

The conditions also set forth how the permittee may calculate assessable emissions. If the permittee does not choose to annually calculate assessable emissions, emissions fees may be paid based on "potential to emit." The assessable emissions for insignificant sources defined under 18 AAC 50.335(q) through (v), or other non-regulated source may be based upon a gross estimate provided by the permittee. The permittee is not required to monitor operation (e.g. fuel usage, hours of operation) of insignificant sources or other non-regulated source for the purpose of paying emission fees.

The SO_2 PTE is based on diesel fuel with a 0.3% by weight sulfur content or fuel gas with a sulfur content of 30 ppm H_2S by volume.

Conditions 4, 5, and Section 13, Visible Emissions

Legal Basis: [18 AAC 50.050(a), 1/18/97]

[18 AAC 50.055 (a)(1), 1/18/97]

[18 AAC 50.350(d)(1)(C), 6/21/98]

[18 AAC 50.350(g) – (i), 1/18/97]

Applicability: Heaters, flares and engines are fuel-burning equipment. Regulation 18 AAC 50.055(a)(1) applies to operation of all fuel-burning equipment in Alaska. Regulation 18 AAC 50.050(a) applies to the incinerator.

Factual basis: Condition 4 requires the permittee to comply with the state visible emission standards applicable to fuel-burning equipment and incinerators. The permittee shall not cause or allow the equipment to violate these standards.

Standard conditions for visible emissions and particulate matter monitoring for gas- and liquid-fired fuel burning equipment subject to the visible emission and particulate standards of 18 AAC 50.055(a)(1) and 50.055(b)(1) have been adopted consistent with AS 46.14.010(e). The adopted standard condition(s) for visible emissions and particulate monitoring are not for use with flares because flares are expressly excluded from the gas-fired sources condition and flares do not fire liquid fuel. Additionally, the standard condition(s) are not applicable to incinerators because incinerators are not considered fuel burning equipment, as defined by 18 AAC 50.990(41), and not subject to 18 AAC 50.055 requirements. However, incinerators are subject to the visible emission standards of 18 AAC 50.050.

For fuel burning equipment the department will use the adopted standard operating permit condition(s) unless it is determined that source or facility specific conditions more adequately meet the requirements of 18 AAC 50. The opacity standard in 18 AAC 50.050 is the same standard that is 18 AAC 50.055.

Gas Fired:

Monitoring – The monitoring of gas fired sources for visible emissions is waived, i.e. no opacity monitoring will be required. The department has found that gas fired equipment inherently has negligible PM emissions. However, the department can request a source test for PM emissions from any smoking equipment.

Reporting – The permittee must annually certify that only gaseous fuels are used in the equipment.

Liquid Fired:

For Sources ID 4, 5 and 11 through 20, visible and PM emissions monitoring is waived in accordance with recently issued Department Guidance AWQ 02-014 as long as the units are not operated more than 400 hours per calendar year on liquid fuel. The permittee is not required to start-up a source on liquid fuel for the sole purpose of conducting a visible emissions observation.

Monitoring – The visible emissions are to be observed by using the Method-9 plan as requested by the permittee. Method-9 requires the permittee to observe visible emissions in accordance with the state reference test method (i.e. 40 C.F.R. 60, Method 9).

Recordkeeping - The permittee is required to record the results of all visible emission observations and record any actions taken to reduce visible emissions.

Reporting - The permittee is required to report: 1) emissions in excess of the state visible emissions standard, 2) and deviations from permit conditions. The permittee is required to include copies of the results of all visible emission observations with the facility operating report.

Incinerator:

After the initial (within 6 months) observation, monitoring for the solid waste incinerator (Source ID 21) requires a biennial Method 9 observation during a period that the unit is burning solid waste. The results of the observation(s) must be reported to the department.

Flare:

Monitoring for flare (Source ID 22) requires an observation of the flare once per calendar year using Method 9 during a period that the crude oil tanks are taking on a large volume of crude oil. The department is requiring the observation at the high crude rate to ensure the flare continues to be capable of controlling the large quantity of vapors generated during a pipeline shutdown event. Review of the excess emissions reports and department inspection reports indicate that under low flow operating conditions the flare can meet the opacity standard. However, under high crude flow conditions the flare has a history of being unable to adequately control the tank vapors resulting in excessive black smoke generation.

The results of the annual observations along with the crude oil flow rate in to the tanks must be reported to the department.

Condition 6 and Section 13, Particulate Matter (PM) Standard

Legal Basis: [18 AAC 50.055 (b)(1), 1/18/97]

[18 AAC 50.350(d)(1)(C), 6/21/98]

[18 AAC 50.350(g) – (i), 1/18/97]

Applicability: This regulation applies to operation of all fuel-burning equipment in the State of Alaska.

Factual basis: Condition 6 requires the permittee to comply with the state PM (also called grain loading) standard applicable to fuel-burning equipment. The permittee shall not cause or allow fuel-burning equipment to violate this standard.

This condition has recently been adopted into regulation as a standard condition.

Gas Fired:

Monitoring – The monitoring of gas fired sources for particulate matter is waived, i.e. no source testing will be required. The department has found that gas fired equipment inherently has negligible PM emissions. However, the department can request a source test for PM emissions from any smoking equipment.

Reporting – The permittee must annually certify that only gaseous fuels are used in the equipment.

Liquid Fired:

Monitoring – The permittee is required to conduct PM source testing if threshold values for opacity are exceeded in accordance with Section 13.

Recordkeeping - The permittee is required to record the results of PM source tests.

Reporting - The permittee is required to report: 1) incidents when emissions in excess of the opacity threshold values have been observed, 2) and results of PM source tests. The permittee is required to include copies of the results of all visible emission observations with the facility operating report.

The Particulate Matter monitoring, recordkeeping, and reporting conditions for liquid fuel fired heaters and boilers has been written as facility specific requirements that are similar to the PM standard condition requirements for diesel turbines and engines. The intent of these conditions is to require periodic monitoring, recordkeeping, and reporting, for Source IDs 16 through 19 in accordance with 18 AAC 50.350 (g) – (i).

Flares:

Monitoring of gas fired flares for particulate matter is waived, i.e. no source testing will be required, because of the difficulty and questionable results these tests produce when applied to flares. The department has recognized this fact by incorporating a waiver of 18 AAC 50.050(b) in the State Implementation Plan (SIP) adopted in November 1984 which has not been federally approved. No recordkeeping or reporting is required. The SIP disagrees with 18 AAC 50.055(b)(1). And in this case the newer regulation takes precedent. In other words, the flare's particulate emissions must comply with the new regulation but there is no requirement to monitor compliance.

Conditions 7, 7.1, and 7.2, Sulfur Compound Emissions

Legal Basis: [18 AAC 50.055(c), 1/18/97]

[18 AAC 50.350(d)(1)(C), 6/21/98]

[18 AAC 50.350(g) – (i), 1/18/97]

[18 AAC 50.410(c), 1/18/97]

Applicability: The condition applies to operation of all fuel-burning equipment in the State of Alaska.

Factual basis: The condition re-iterates a sulfur emission standard applicable to fuel-burning equipment. The permittee may not cause or allow their equipment to violate this standard.

Diesel Fuel: Diesel fuel sulfur is measured in weight percent sulfur. The department has determined that compliance with the standard is assured by limiting the fuel liquid sulfur content to 0.75 wt% sulfur. Compliance will be assured by restricting the facility liquid fuel sulfur content to the former 18 AAC 50.400 AQC Permit No. 9572-AA012 sulfur limit of 0.3 wt%. Due to the large compliance margin with the facility sulfur limit and the unlikelihood of a potential sulfur compound emission limit exceedance approaching 0.75 wt% S, the permittee need only use Section 14 to calculate the exhaust sulfur dioxide concentration in the event that the fuel sulfur content exceeds 0.75 wt%. For fuels with a sulfur content higher than 0.75 wt%, this condition requires the permittee to use the equations in Section 14 to calculate the exhaust gas SO_2 concentration, showing whether the standard was exceeded. The equations in Section 14 are all based on stoichiometric mass balance. The ADEC Air Permits Web Site contains the supporting calculations at

http://www.state.ak.us/dec/dawq/aqm/newpermit.htm

Fuel Gas: Fuel gas sulfur is measured as hydrogen sulfide, i.e. H_2S concentration in ppm by volume (ppmv). Calculations show that fuel gas containing no more than 4200 ppm H_2S will always comply with this emission standard. This is true for all fuel gases, even with no excess air. The calculations supporting this assertion are posted on the ADEC Air Permits Web Site at

http://www.state.ak.us/dec/dawq/aqm/newpermit.htm, under "Stoichiometric Mass Balance Calculations of Exhaust Gas SO_2 Concentration."

Equations to calculate the exhaust gas SO_2 concentrations resulting from the combustion of fuel gas were not included in this permit. Fuel gas with an H_2S concentration of even 10 percent of 4200 ppm is currently not available in Alaska and is not projected to be available during the life of this permit.

SO_2 Potential to Emit (PTE): The SO_2 PTE is based on 0.3 wt% sulfur in the diesel fuel and 30 ppm H_2S by volume in the fuel gas. If these fuel sulfur values from the application, i.e. 0.3 wt% and 30 PPM, are exceeded, then the SO_2 PTE could be exceeded depending on the hours of operation and the rate of fuel consumption. However, the department may, in its discretion, under the authority of 18 AAC 50.201(a) require the permittee to evaluate the effect of the facility's SO_2 emissions on ambient air before allowing the fuel sulfur concentration to exceed the 0.3 wt% and 30 ppm fuel sulfur limits in this permit.

Conditions 8 through 12, NSPS Subpart A and GG Requirements

Legal Basis: [18 AAC 50.040(a)(1) & (2)(V), 7/2/00]

[40 C.F.R. 60 Subpart A, GG and Appendices A, B, & F, 7/1/99]
[18 AAC 350(g) – (i), 1/18/97]

Applicability: The conditions apply to all gas turbines subject to NSPS Subpart GG. The conditions apply to the NSPS 40 CFR 60 Subparts A and GG affected Solar turbine engines s/n 0756S21 and 0753S21 when located in sources 6 through 10. Turbines that are subject to Subpart GG for Stationary Gas Turbines are rated greater than 10.7 gigajoules per hour (10 MMBtu/hr), based on the lower heating value of fuel fired and constructed, modified, or reconstructed after October 3, 1977. An affected facility subject to an NSPS Subpart is also subject to Subpart A, General Provisions.

Factual Basis: The U.S. Environmental Protection Agency (EPA) regulates New Source Performance Standards (NSPS). The intent of NSPS is to provide technology-based emission control standards. EPA may delegate to each state the authority to implement and enforce standards of performance for new stationary sources located in that state. The department has incorporated by reference the NSPS for specific industrial activities, as listed in 18 AAC 50.040. However, EPA has not delegated to the department the authority to administer the NSPS program at this time.

NSPS standards impose additional emission limits on the affected facility's SO_2 and NO_X emissions. Conditions 8 - 12 of the permit incorporate relevant portions of Subpart GG and A. Affected turbines are subject to the SO_2 standards as stated in 40 C.F.R. 60.333. The owner or operator shall not discharge gases into the atmosphere from a stationary gas turbine with SO_2 in excess of 0.015 percent by volume (150 ppmvd) at 15 percent O_2 and on a dry basis, or no owner or operator shall burn fuel with greater than 0.8 wt sulfur.

The permittee shall maintain records of all sulfur monitoring data for five years as set out in 18 AAC 50.350(h)(5). The applicant shall maintain records documenting the fuel supplier or source. A substantive change in fuel quality shall be considered as a change in fuel supply.

Standards for Nitrogen Oxides:

The turbines are subject to 40 C.F.R. 60.332(a)(2) because they are classified under 40 C.F.R. 60.330(b) as affected facilities with heat input loads greater than 10 MMBtu/hr (10.7 gigajoules/ hr) and less than 100 MMBtu/hr (107.2 gigajoules/hr), and modified after October 3, 1982.

The NSPS NO_X standard under 40 C.F.R. 60.332(a)(2) states that no owner or operator shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.015 * \frac{14.4}{Y} + F$$

Where: STD = allowable NO_X emissions, percent by volume at 15% O_2 and on a dry basis

Y = manufacturer's rated heat rate at manufacturer's rated peak load, kilojoules per watt hour, or actual measured heat rate based on lower heating value of fuel as

measured at actual peak load for the affected facility. The value of Y shall not exceed 14.4 kilojoules per watt-hour.

F = NO_X emission allowance for fuel-bound nitrogen, percent by volume, assumed to be zero for Alaskan fuels.

Based on an assumed manufacturer's heat rating of 14.4 kJ/W-hr, and assuming fuel bound nitrogen of zero, the NO_X standard is 150 ppmvd at 15% O_2.

Conditions 9 through 12, Monitoring and Reporting Requirements for Subpart GG Turbines

Legal Basis: [18 AAC 50.350(g)-(i), 1/18/97]

[18 AAC 50.040(a)(1), 7/2/00]

[40 C.F.R. 60. Subpart A, 7/1/99]

Factual Basis: Periodic monitoring for turbines subject to the NO_X standard of 40 CFR 60.332 NSPS is addressed by Condition 9. This monitoring scheme only applies to turbines subject to 40 CFR 60.332 that are operated more than 400 hours in a twelve-month rolling period. This additional monitoring is necessary to ensure that turbine emissions stay below the NSPS NO_X standard. The initial frequency of the source testing (monitoring) is dependent upon the results of prior source tests or emission factors from the manufacturer or AP-42.

If the most recent test results are over 90 percent of the NO_X limit, the permittee shall conduct source tests yearly.

This tiered approach requires more stringent periodic monitoring for turbines that approach the NO_X limit and less for those that do not approach the limit. The result is a testing regime that is not onerous as it is based upon current source test results. The additional monitoring requirements on the turbines will ensure that the turbine performance remains adequate and does not deteriorate after years of operation.

Conditions 9.6c- 12 list the reporting and testing requirements for the above conditions.

Alaska State regulation 18 AAC 50.350(g) requires state operating permits to contain sufficient periodic monitoring to determine compliance with each permit condition. NSPS GG imposes no periodic monitoring requirements for the NO_X standard, and it would be inappropriate to deem fuel nitrogen monitoring reporting alone to be periodic monitoring sufficient to determine compliance with that standard.

Conditions 8.6 - 8.9, NSPS Subpart A Requirements

Legal Basis: [8 AAC 50.040(a)(1), 7/2/00]

[40 C.F.R. 60.7(b), 7/1/99]

[40 C.F.R. 60.7(a)(1), & (a)(3), 7/1/99]

[40 C.F.R. 60.11(d), 7/1/99]

[40 C.F.R. 60.12, 7/1/99]

Applicability: The NSPS Subpart GG turbines are subject to the following Subpart A requirements.

Factual Basis: Condition 8.6 states that the permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of Sources subject to Condition 8 through 12.

Condition 8.7 requires that in accordance with 40 C.F.R. 60.11(f), 7/1/99 the permittee must maintain all records of all measurements, including performance tests, and all other information under 40 CFR part 60.

Condition 8.8 requires that at all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate sources subject to Conditions 8 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the department, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of sources subject to Conditions 8 through 12.

Condition 8.9 requires that the permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of a standard set forth in Conditions 8 through 12. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.

Condition 13, Turbine Relocations

Legal Basis: [40 CFR 70.6(a)(9), 11/18/98]

[EPA Letter, 40 CFR 60 Subpart GG Applicability Determination, 8/1/02]

[18 AAC 50.350(g) - (i) & 50.346(c), 5/3/02]

Applicability: The turbine engines are removed from their operating locations periodically for maintenance and a turbine engine from the TAPS inventory of the same turbine engine family is substituted as a replacement. The equipment powered by the turbine engine (such as the pump or the electric generator) remains in place. Most of the turbines were manufactured and began operation on the TAPS prior to October 3, 1977, the applicability date for NSPS Subpart GG. Alyeska does also have some turbines manufactured after October 3, 1977. According to the permittee, Alyeska has at all times treated these turbines manufactured after October 3, 1977, as subject to NSPS Subparts A and GG regardless of where they are operated on the TAPS.

Factual basis: This condition requires monitoring, recordkeeping, and reporting to document that the turbines not subject to NSPS Subpart GG can be clearly identified and that the relocation and replacement of such turbines from the pool does not constitute a “modification” or “reconstruction,” as those terms are defined in NSPS Subpart A.

Conditions 14 - 17, Sewage Stack Injection and Operating Limit Fuel Consumption for source IDs 1 through 3

Legal Basis: [Construction Permit No. 9872-AC021 and Operating Permit No. 9572-AA012]

[18 AAC 50.350(g) - (i), 1/18/97]

Factual basis: These are fuel, gas generator speed limits, and other operating limits taken from the former 18 AAC 50.400 permit. Permittee is required to monitor operating parameters associated with the mainline turbines. In these conditions the permittee is required to determine the accuracy of the fuel consumption, air temperature, and turbine speed and report any violations of the limits.

Condition 18, Process Monitoring System Performance Report

Legal Basis: [18 AAC 50.350(g-i), 7/2/00]

Factual Basis: This condition requires the permittee to report the non-availability of the monitoring systems.

Conditions 19 through 23, Operating limits for non-mainline turbines and heaters, Source IDs 4 through 19

Legal Basis: [Construction permit 9872-AA021, and AQC permit 9572-AA012]

[18 AAC 50.350(g-i), 7/2/00]

Factual Basis: The prior operating permit had these limits which were carried over into permit 072TVP01. For these sources the fuel consumption may continue (as in the last permit) to be estimated from the firing time and burner rating. Permittee is required to report compliance with these limits.

Condition 24, Solid Waste Incinerator

Legal Basis: [18 AAC 50.040(a) 2(G), 12/30/00]

[18 AAC 50.350(d)(4), 1/18/97]

[18 AAC 50.350 (g)-(i), 1/18/97]

[40 C.F.R. 60.32e(c), 7/1/99]

Factual Basis: The Therm-Tec solid waste incinerator may occasionally burn small quantities of medical/infectious wastes. The amount of medical /infectious waste burned compared to other waste types is considerably less than 10 percent. The co-fired combustor, 10 percent exemption threshold of 40 C.F.R. 60.50c(c)(3) allows the incinerator to avoid the requirements of 40 C.F.R. 60 Subpart Ec for Hospital/Medical/Infectious Waste Incinerators (HMIWI) constructed on or before June 20, 1996. The permittee must maintain records demonstrating compliance with the exemption claim.

Condition 25.1 - 25.4, Insignificant Source Reporting

Legal Basis: [18 AAC 50.350(m)(3), 9/4/98]

[18 AAC 50.346(b)(1), 5/3/02]

Factual Basis: The insignificant sources section of the permit replaces the 1 MMBtu/hr source exemption of former permits. 18 AAC 50.365(b) requires no notification when adding insignificant sources to the facility. The regulations require the permittee to report if an insignificant source becomes significant and certify that their insignificant sources comply with applicable requirements. Insignificant sources must comply with the air pollution prohibitions. These conditions restate the regulatory requirement.

Conditions 26 - 28, Emission Standards for Insignificant Sources

Legal Basis: [18 AAC 50.050(a), 1/18/97]

[18 AAC 50.055(a)(1), 1/18/97]

[18 AAC 50.055(b)(1), 1/18/97]

[18 AAC 50.055(c), 1/18/97]

[18 AAC 50.346(b)(1), 5/3/02]

Factual basis: **T**hese are general emission standards which apply to all industrial processes fuel-burning equipment, and incinerators regardless of size. The conditions re-iterate the general standards and require compliance for insignificant sources. The permittee may not cause or allow their equipment to violate these standards. Insignificant sources are not listed in the permit unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance.

The department finds that the insignificant sources at this facility do not need specific monitoring, recordkeeping and reporting to ensure compliance.

Condition 29, Asbestos NESHAP

Legal Basis: [18 AAC 50.040(b)(3) & 18 AAC 50.350(d)(1), 1/18/97]

[40 C.F.R. 61, Subpart M, 12/19/96]

If the permittee engages in asbestos demolition and renovation, then these requirements may apply.

Factual Basis: The condition cites and requires compliance with the regulations that will apply if the permittee engages in asbestos demolition or renovation. Because these regulations include adequate monitoring and reporting requirements, simply citing the regulatory requirements is sufficient to ensure compliance with this federal regulation.

Condition 30, Refrigerant and Halocarbon Recycling and Disposal

Legal Basis: [18 AAC 50.040(d) & 18 AAC 50.350(d)(1), 1/18/97]

[40 C.F.R. 82, Subpart F & H, 7/1/97]

Factual Basis: The condition cites and requires compliance with the regulations that will apply if the permittee uses certain halocarbons. Because these regulations include adequate monitoring and reporting requirements, simply citing the regulatory requirements is sufficient to ensure compliance with this federal regulation.

Condition 31, Facilities Containing NSPS and NESHAPS Sources

Legal Basis [18 AAC 50. 040(a) & (c), 7/2/00]

[18 AAC 50.040(b), 1/18/97]

[40 C.F.R. 60, 7/1/99]

[40 C.F.R. 61, 12/19/96]

[40 C.F.R. 63, 7/1/99]

Factual basis: This condition cites and requires compliance with the regulations that will apply if the permittee engages in any activity subject to any 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 regulation.

Condition 32, Good Air Pollution Control Practice

Legal Basis: [18 AAC 50.030, 12/30/00]

[18 AAC 50.350(f)(2)-(3), 1/18/97]

[18 AAC 50.346(b)(2), 5/3/02]

Factual basis: Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate much more quickly, and periodic monitoring that is not continuous would be needed much more frequently to be sure that it is representative.

Records should be kept and available to the department. Records of deferred maintenance may be a reasonable trigger for requesting source testing.

For most existing equipment, the department does not specify that the permittee must follow manufacturer's recommendations. If the manufacturer's recommendations are not suitable for Alaskan conditions, or don't relate to minimizing emissions, the permittee can see that they are changed as a condition of purchase for existing equipment. The requirement for complying with manufacturer's recommendations or with a specific operation and maintenance (O & M) plan is included for control equipment because the efficient operation of control equipment directly relates to emissions, and the department does not anticipate that Alaskan conditions will require drastically different O & M procedures.

It is not the department's intent in specifying manufacturer's recommendations to include those that endorse only the manufacturer's line of replacement parts. The condition states that any suitable replacement parts or equipment can be used.

This condition does not apply to NSPS, NESHAPs and Part 82 sources.

Condition 33, Dilution

Legal Basis: [18 AAC 50.045(a), 1/18/97]

Factual Basis: The requirement prohibits diluting emissions as a means of compliance with 18 AAC 50.

Condition 34, Bulk Material Handling, Construction, and Industrial Activities

Legal Basis: [18 AAC 50.040(e), 7/2/00]

[18 AAC 50.045(d), 1/18/97]

[18 AAC 50.350(d)(1), 1/18/97]

[18 AAC 50.350(g) – (i), 1/18/97]

Applicability: Applies to the permittee because the permittee will engage in industrial activity at the facility.

Factual Basis: The condition restates the regulatory prohibition on fugitive dust. This prohibition calls for reasonable precautions to be taken to prevent particulate matter from being emitted into the ambient air while engaged in industrial activities.

Condition 35, Stack Injection

Legal Basis: [18 AAC 50.055(g) & 18 AAC 50.310(m), 1/18/97]

Applies to the facility because the facility contains a stack or source modified after November 1, 1982.

Factual Basis: The condition restates the prohibition on stack injection (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the source or stack would need to be modified to accommodate stack injection. Stack injection that existed at the pump station before November 1, 1982 is not affected by this condition.

Alyeska was authorized by DEC to operate stack injection in the mainline turbine unit exhaust.

Condition 36, Open Burning

Legal Basis: [18 AAC 50.040(e), 7/2/00]

[18 AAC 50.065(a) – (e), 1/18/97]

[18 AAC 50.350(d)(1), 1/18/97]

[18 AAC 50.350(g) – (h), 1/18/97]

These conditions apply if the permittee conducts open burning at the facility.

Factual Basis: The condition requires the permittee to comply with the regulatory requirements when conducting open burning at the facility.

Extensive monitoring and recordkeeping is not warranted because most of the requirements are prohibitions, which are not easily monitored. Additional monitoring is achieved through Condition 37, which requires a record of complaints. Therefore, the department does not believe that additional monitoring is warranted.

Condition 37, Air Pollution Prohibited

Legal Basis: [18 AAC 50.040(e), 7/2/00]

[18 AAC 50.110, 5/26/72]

[18 AAC 50.240(c), 1/18/97]

[18 AAC 50.346(a)(2), 5/3/02]

[18 AAC 50.350(d)(1), 1/18/97]

[18 AAC 50.350(g) – (i), 1/18/97]

Applies to the facility because the facility will have emissions.

Factual Basis: The condition restates the general prohibition on injurious air emissions, which applies to any emissions from the facility. While the other permit conditions and emissions limitation should ensure compliance with this condition, unforeseen emission impacts can violate this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the permittee must monitor and respond to complaints.

The permittee is to report any complaints and injurious emissions. The permittee must keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for these complaints and to submit copies of these records upon request of the department.

Condition 38, Technology-Based Emission Standard

Legal Basis: [18 AAC 50.235(a) & 18 AAC 50.350(f), 1/18/97]

Applies to the facility because the facility contains equipment subject to a technology-based emission standard.

Factual Basis: This condition restates a regulation that requires the permittee to take reasonable steps to minimize emissions if certain activity causes exceedance of a technology-based emission standard. Because the technology-based emission standard itself is a condition of the permit, the permittee will report the excess emissions under Condition 52. Because the excess emission report requires information on the steps taken to minimize emissions, this report is adequate monitoring for compliance with this condition.

Condition 39, Permit Renewal

Legal Basis: [18 AAC 50.335(a), 1/18/97]

Applies if the permittee intends to renew the permit.

Factual Basis: The condition restates the regulatory deadlines, citing the specific dates applicable to the facility. Submittal of the renewal application is sufficient monitoring, recordkeeping and reporting.

Conditions 40 & 41, Source Test Requests

Legal Basis: [18 AAC 50.220(a), 1/18/97]

[18 AAC 50.345(k) & (l), 5/3/02]

Applicability: Standard condition to be included in all permits.

Factual Basis: Condition requires the permittee to conduct source tests as requested by the department, therefore no monitoring is needed. Conducting the requested source test is its own monitoring. Condition 41 addresses how extension requests are considered.

Conditions 42 - 44, Test Plans, Notification, and Reports

Legal Basis: [18 AAC 50.345(m), (n) & (o), 5/3/02]

[18 AAC 50.350(b)(3), 1/18/97]

[18 AAC 50.350(g) – (i), 1/18/97]

Applicability: Applies when the permittee is required to conduct a source test.

Factual Basis: Standard Condition 18 AAC 50.345(m), (n) & (o) is incorporated through these three conditions. Because this standard condition supplements specific monitoring requirements stated elsewhere in this permit, no monitoring, reporting, or recordkeeping is required. The source test itself is adequate to monitor compliance with this condition.

Conditions 45 - 47, Operating Conditions, Methods, and Excess Air

Legal Basis: [18 AAC 50.030, 12/30/00]

[18 AAC 50.035, 7/2/00]

[18 AAC 50.040(a)(b)(c)(d) & (e), 1/18/97 & 7/2/00]

[18 AAC 50.220(b) – (c), 1/18/97]

[18 AAC 50.350(g), 1/18/97]

[18 AAC 50.990(88), 1/18/97]

[Federal Citation: 40 C.F.R. 51, Appendix M, 7/1/99]

[Federal Citation: 40 C.F.R. 60, 7/1/99]

[Federal Citation: 40 C.F.R. 61, 12/19/96]

[Federal Citation: 40 C.F.R. 63, 7/1/99]

Applicability: Applies when the permittee is required to conduct a source test.

Factual Basis: These conditions restate regulatory requirements for source testing. As such, they supplement the specific monitoring requirements stated elsewhere in this permit.

The tests reports required by later conditions adequately monitor compliance with these conditions, therefore no specific monitoring, reporting, or recordkeeping is needed.

Condition 48, Certification

Legal Basis: [18 AAC 50.205, 1/18/97]

[18 AAC 50.345(a)(9), 1/18/97]

[18 AAC 50.345(j), 5/3/02]

[18 AAC 50.350(b)(3), 1/18/97]

[18 AAC 50.350(i), 1/18/97]

Applies because the permit requires the permittee to submit reports, and because the condition is a standard condition.

Factual Basis: This condition restates the regulatory requirement that all reports required by a permit or by the department must be certified. To ease the certification burden, the condition allows the excess emission reports to be certified with the semi-annual operating report, although the excess emission reports must be submitted more frequently. This condition supplements the reporting requirements of the permit and no monitoring, recordkeeping or reporting for this condition is needed.

Condition 49, Submittals

Legal Basis: [18 AAC 50.350(i), 1/18/97]

Applies because the permittee is required to send reports to the department.

Factual Basis: This condition specifies the department address to which submittals should be sent. Receipt of the submittal at the correct department office is sufficient monitoring for this condition. This condition supplements the reporting requirements of the permit and no monitoring, recordkeeping or reporting for this condition is needed.

Condition 50, Information Requests

Legal Basis: [18 AAC 50.200, 1/18/97]

[18 AAC 50.345(a)(8), 1/18/97]

[18 AAC 50.345(i), 5/3/02]

[18 AAC 50.350(b)(3), 1/18/97]

[18 AAC 50.350(g) – (i), 1/18/97]

Applies to all permittees, and incorporates a standard condition

Factual Basis: Incorporates a standard condition in regulation, which tells the permittee to submit information requested by the department. Receipt of the requested information is adequate monitoring.

Condition 51, Recordkeeping Requirements

Legal Basis: [18 AAC 50.350(h), 1/18/97]

Applies to records required by a permit.

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide adequate evidence of compliance with this requirement, therefore, no additional monitoring, recordkeeping or reporting is required.

Condition 52, Excess Emission and Permit Deviation Reports

Legal Basis: [18 AAC 50.235(a)(2), 18 AAC 50.240(c)]

[18 AAC 50.350(i), 1/18/97]

[18 AAC 50.346(a)(3), 5/3/02]

Applies when the emissions or operations deviate from the requirements of the permit.

Factual Basis: This condition satisfies two regulatory requirements related to excess emissions—the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

The condition does not mandate the use of the department's reporting form, but it does specify that the information listed on the form must be included in the report.

The reports themselves and the other monitoring records required under this permit provide an adequate monitoring of whether the permittee has complied with the condition. Therefore, no additional monitoring, recordkeeping or reporting is required.

Condition 53, NSPS and NESHAP Reports

Legal Basis: [18 AAC 50.040, 7/2/00 & 18 AAC 50.350(i)(2), 1/18/97]

[40 C.F.R. 60 & 40 C.F.R. 61, 7/1/99]

Applies to facilities subject to NSPS and NESHAP federal regulations.

Factual Basis: The condition supplements the specific reporting requirements in 40 C.F.R. 60 and 40 C.F.R. 61. The permit does not need any monitoring, recordkeeping or reporting. The reports themselves are adequate monitoring for compliance with this condition.

Condition 54, Facility Operating Reports

Legal Basis: [18 AAC 50.350(d)(4), 1/18/97]

[18 AAC 50.350(f)(3), 1/18/97]

[18 AAC 50.350(i), 1/18/97]

[18 AAC 50.346(b)(3), 5/3/02]

Applies to all permits.

Factual Basis: The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit and does not need any monitoring, recordkeeping or reporting. The reports themselves are adequate monitoring for compliance with this condition.

Condition 55, Annual Compliance Certification

Legal Basis: [18 AAC 50.350(j), 1/18/97]

[18 AAC 50.350(d)(4), 1/18/97]

Applies to all permittees.

Factual Basis: This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification. Because this requirement is a report, no monitoring, recordkeeping or reporting is needed.

Conditions 56 - 62, Standard Conditions

Legal Basis: [18 AAC 50.345(a)(1) – (7) & 18 AAC 50.350(b)(3), 1/18/97]

Applies to all operating permits.

Factual Basis: These are standard conditions required for all operating permits.

Conditions 63, Permit Shield

Legal Basis: [18 AAC 50.350(l), 1/18/97]

Applies because the permittee has requested a shield for the applicable requirements listed under this condition.

Factual Basis: TABLE 2 of the permit explains the permit shield requests and the department's applicability determination. This permit condition sets forth the requirements that the department determined were not applicable to the facility, based on the permit application, past operating permit, construction permits and inspection reports.

The permittee has requested a shield from Conditions 1 – 18, 20 – 26, and Exhibits A – E of Permit No. 9572-AA012. These conditions and exhibits have been deleted or replaced with new conditions as listed in Table 2 of this Statement of Basis document. The department cannot grant a shield from conditions in Permit No. 072TVP01.

Conditions 64 - 69.3, Visible Emissions and Particulate Matter Monitoring Plan

Legal Basis: [18 AAC 50.350(g) – (i), 1/18/97]

[18 AAC 50.350(d)(1)(C), 6/21/98]

[18 AAC 50.055(b)(1), 1/18/97]

[18 AAC 50.346(c), 5/3/02]

Applies because these conditions detail the monitoring, recordkeeping, and reporting required in Conditions 4 and 6.

Factual Basis: Each permit term and condition must include monitoring, recordkeeping and reporting for the permittee to show verifiable compliance with each permit term and condition. The permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Facility Operation and Maintenance Program, that the facility is in continuous compliance with the State's emission standards for visible emissions and particulate matter. The correlation between particulate matter and visible emissions that is the basis for this monitoring procedure is discussed under conditions 4 and 6.

These conditions detail a stepwise process for monitoring compliance with the State's visible emissions and particulate matter standards for liquid and gas fired sources. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, boilers, incinerators, and flares. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Monitoring frequencies for hydrocarbon fuels, both liquid and gaseous, are detailed in these conditions. The monitoring intervals for gaseous fuels are less frequent than for liquid fuels in recognition of the reduced propensity of gaseous fuels to produce particulate matter as a result of combustion. This reduced level of monitoring for individual facilities in conjunction with the very large number of gas fired sources in Alaska should provide the department with sufficient data to evaluate the compliance history of these sources as a category.

Reasonable action thresholds are established in these conditions that require the permittee to progressively address potential visible emission problems from sources either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Notification of the department via recordkeeping and reporting requirements are included in these conditions.